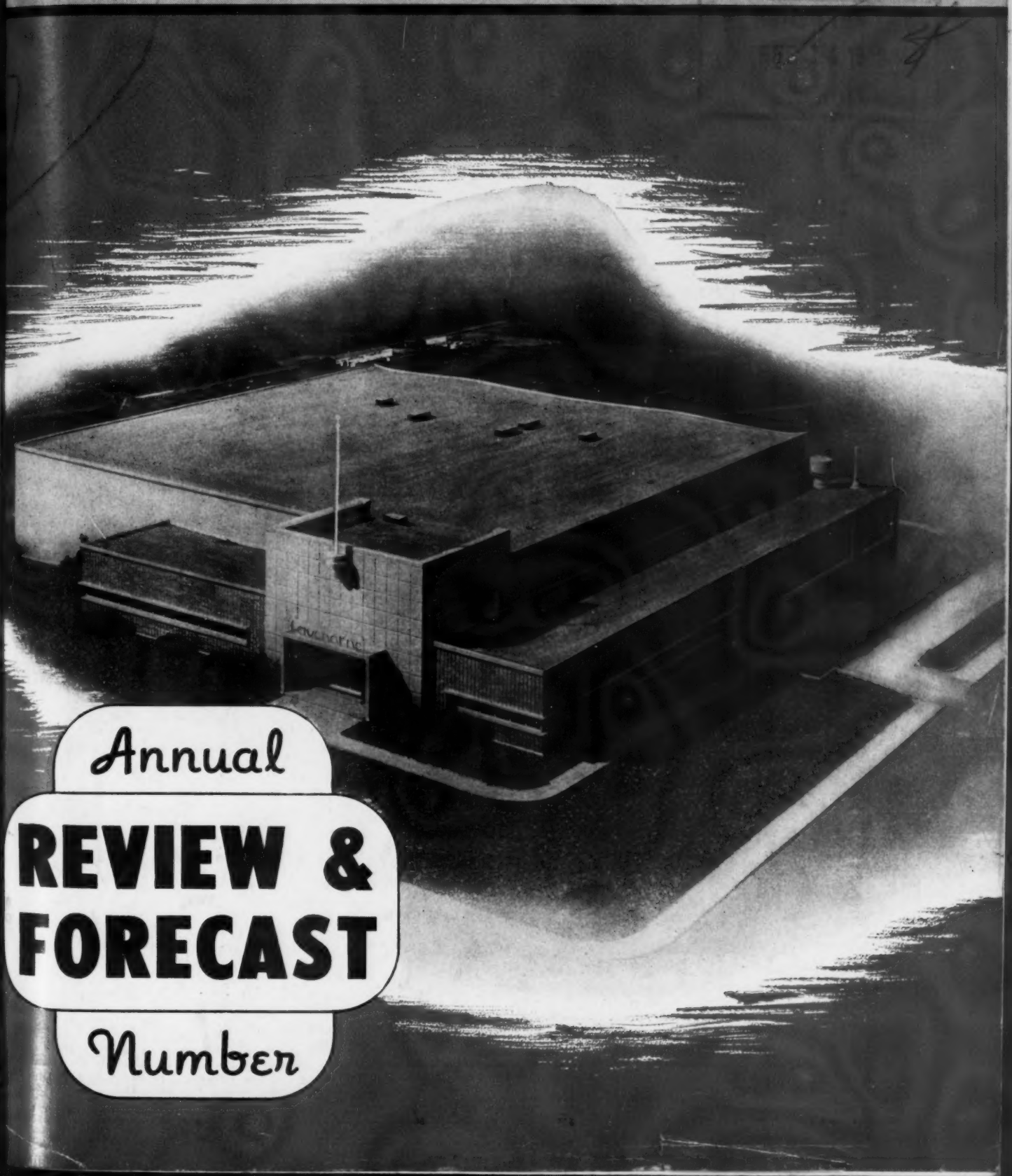
...NOLOGY DEPARTMENT

TEXTILE WORLD

A McGraw-Hill Publication ---------- FEBRUARY • 1948



Annual REVIEW & FORECAST Number

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Yes

The rest of the World wants automatic looms, too, but of our last 12 months' output, only 15.2% has gone into the Export market.

Loading a 48" X-2 loom for shipment by air

15.2% EXPORT

PUBLIC LIBRARY
FEB 14 1948
DETROIT

84.8% DOMESTIC

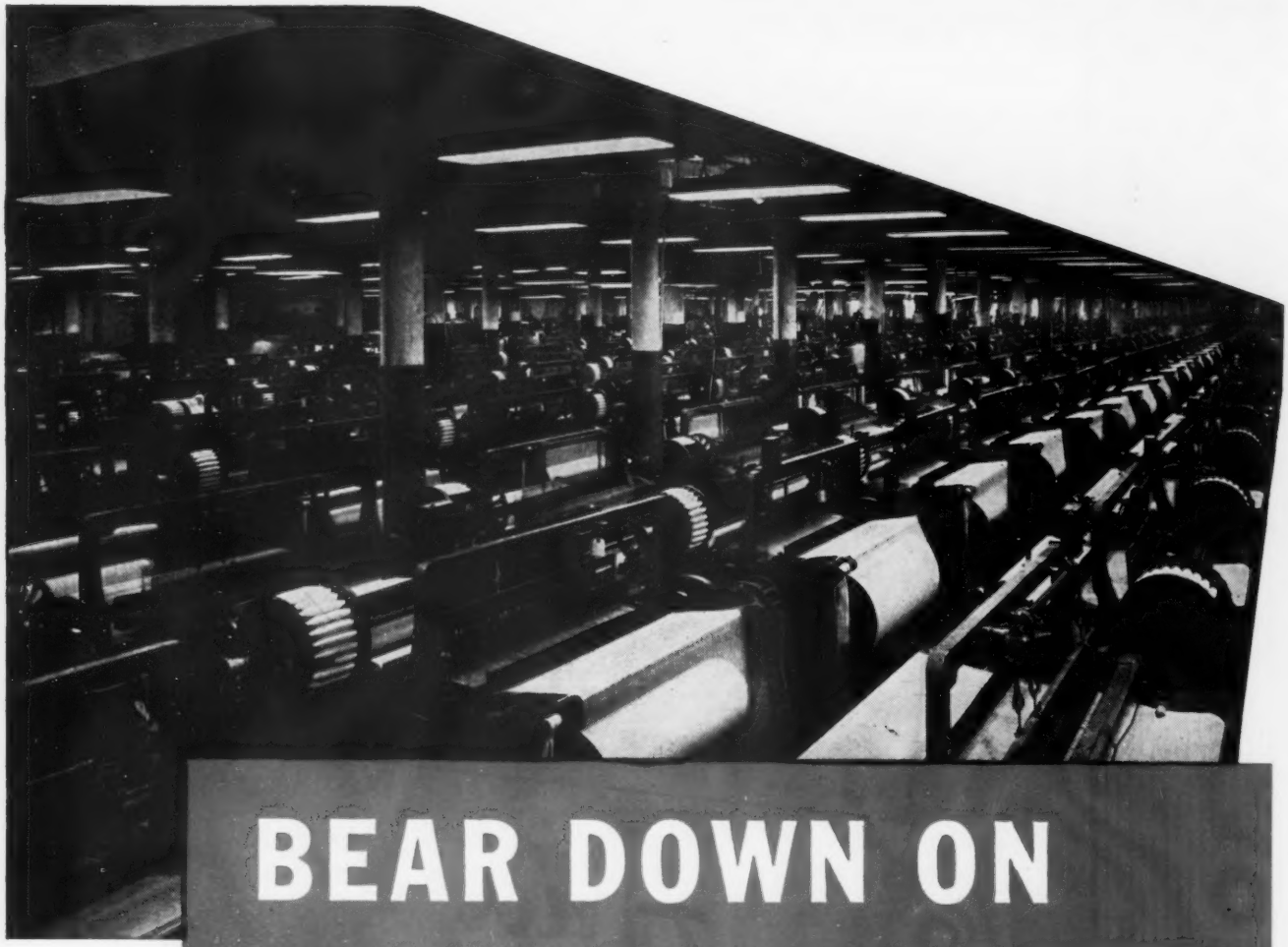
And

During the same 12 months, we have built more than twice as many looms as our annual average for the past 15 years.

So

Many more Draper looms were built last year for mills in the United States, than in any other year since the introduction of the X Series high speed looms and in 1948 we anticipate a still greater volume of looms will be shipped to the mills of this country.

DRAPER CORPORATION
Hopedale Massachusetts



BEAR DOWN ON BEARING COSTS

Save maintenance costs with the lubricant that stays stable—

Texaco Regal Starfak No. 2

You'll get smoother, more economical operation from your grease-lubricated, anti-friction bearings in spinning frames, looms, motors and other machinery, when you protect them with *Texaco Regal Starfak No. 2.*

Texaco Regal Starfak No. 2 exceeds every requirement for an ideal anti-friction bearing lubricant. It stays remarkably stable under all operating conditions—resists oxidation and gum formation, separation and leakage. It stays right in the bearings—makes them last longer, require fewer repairs and replacements.

You'll find also, that *Texaco Regal Starfak No. 2* is easy to apply, and that its low starting and running torque is a big help in keeping your power consumption low.

To enjoy these operating economies in your mill, use Texaco Products and Lubrication Engineering Service. Call the nearest of the more than 2500 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, New York.

TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN . . . TEXACO STAR THEATRE presents the TONY MARTIN SHOW every Wednesday night. • METROPOLITAN OPERA broadcasts every Saturday afternoon.

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TEXTILE WORLD

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THE *Long-Range* VIEW

Who Will Produce Textiles?

The textile industry in the United States has not, in our opinion, expanded too much if mill men will only bear in mind that some of its machines—and perhaps even some whole units—are outdated and should be taken out of production before long.

We purposely did not say should be discarded, although undoubtedly some should be. We must recognize that there is always marginal equipment that can be run profitably in times like the present but that should, at least, be held as stand-by facilities during periods when demand falls off. Of course, such equipment can be run if averaged in with some that is more efficient, but we doubt the wisdom of such a procedure in most cases.

During this year, men responsible for the operation of mills should come forward with plans as to what machinery should be replaced, what might be held in the future as stand-by, and what can probably be run come what may.

We frequently hear of an industry collapsing; even for the textile such is often predicted by persons whose thinking is too shallow to understand the depth and momentum of this basic industry.

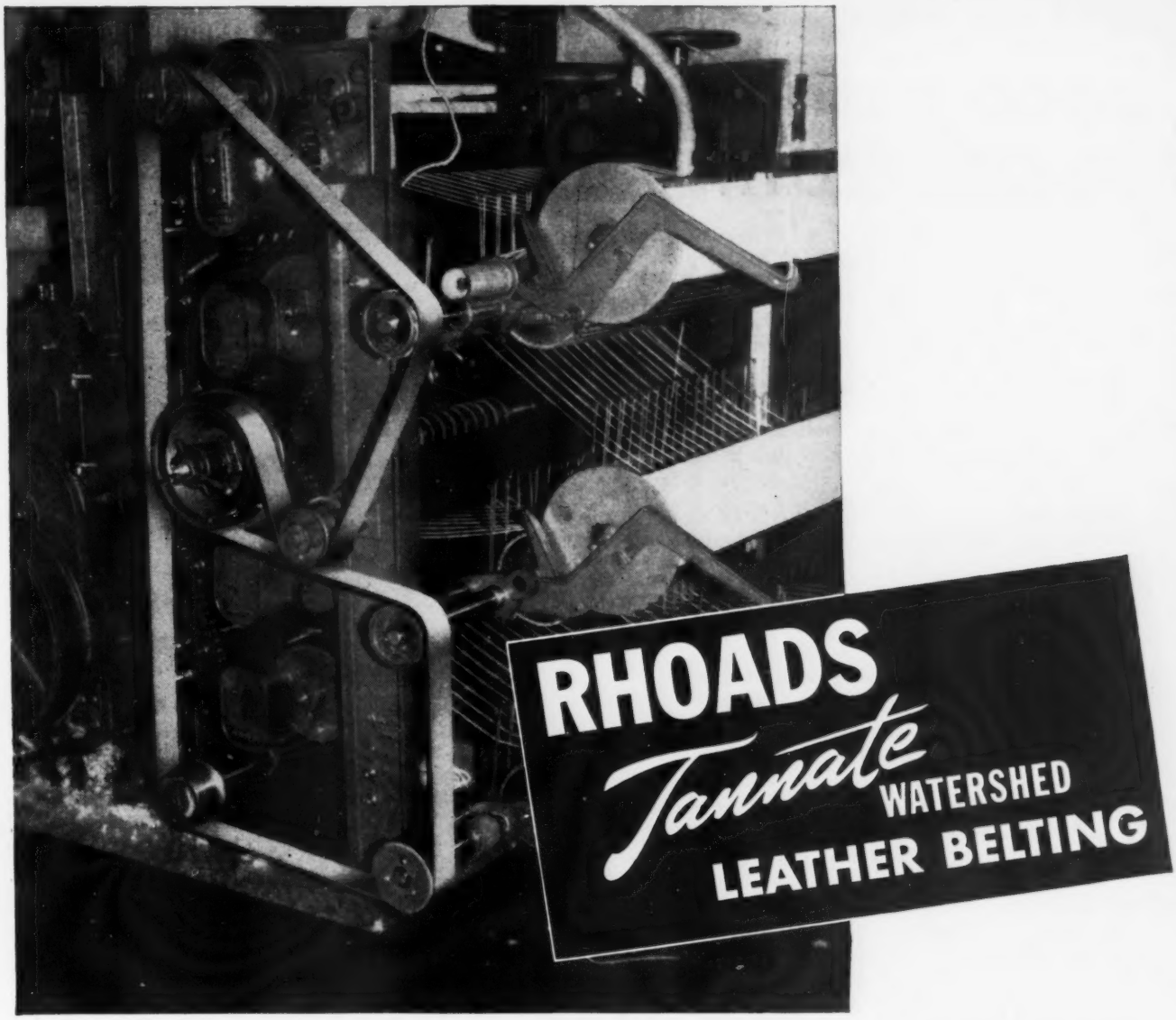
We should forever dismiss from our thinking the idea that the textile industry can go to pot completely, although it is true that individual segments can (for example, silk weaving). Individual segments, also, can expand too rapidly (for example, rayon tricot expanding faster than yarn can be produced); but when one considers the vast world-wide demand for textiles, the only question is who is going to produce at least the minimum requirements necessary to sustain life. Who is going to produce textiles beyond that point depends, we feel, upon how textile-production technology compares with other production technology that competes for whatever can be bought above subsistence minimums.

Discussion of bare subsistence minimum in the United States is, admittedly, somewhat out of place, but does serve to illustrate that there is an irreducible minimum of textiles; and above that minimum any production must compete with other things that people want. Pondering that last point will bring a realization of why textiles are bound to have a bright future.

For one thing, textiles have made greater technological strides, we feel, than has one of the other basic commodities, housing; and textiles are less harmed by government meddling than the third basic commodity, food. The way it shapes up, textiles must compete largely with less-basic things that people buy, such as luxury items, travel, entertainment. So far, it is competing well; but if we fail to progress and attempt to depend on aid from our costly government, we shall inevitably see textile production trending toward minimums, away from the unbounded maximums that can be ours.

The many advances in textile technology pointed out in this magazine every month are brought to the attention of all mills with the hope that they will be beneficial to as much of the industry as possible. Someone, we find, has a solution to almost every mill problem—a potential solution, at least. Those mill men who take advantage of what others have developed and, in addition, use their own brains are going to be the ones who will produce our textiles. How much they will produce has a floor but no ceiling.

C. H. Bendigo



INCREASES PRODUCTION & LOWERS MAINTENANCE

In carding room, spinning room or on your looms . . . Rhoads Tannate Leather Belting is a sound investment in greater operating efficiency at lower operating costs.

Rhoads Tannate Leather Belting withstands high temperatures, humidity, machine oil and many chemicals; has a high power transmitting capacity; requires fewer take-ups and less maintenance; is stronger than most oak belting; carries full load when damp.

For more uniform yardage with less spoilage . . . investigate and install this production-increasing Leather Belting.

HYDRAULIC PACKINGS AND OTHER MECHANICAL LEATHER PRODUCTS

PRODUCERS OF FINE LEATHER FOR 245 YEARS

J. E. RHOADS & SONS

35 NORTH SIXTH ST., PHILA. 6, PA.

NEW YORK • CHICAGO • ATLANTA

GOOD YARN *and* GOOD CLOTH *start in the* OPENING ROOM

There is no better place in the whole mill than the Opening Room to start making good yarn and good cloth. For it is here, in this department that neps, leaf and other impurities are most effectively attacked and more easily removed.

With Saco-Lowell Opening Room equipment you have four effective means of removing the small "peppery leaf", broken seed fragments and similar clinging impurities.

1 . . . **by using sufficient Blending Feeders to reduce the stock to such a size that the combination of gravity, grid bars and dead air space becomes most effective.**

2 . . . **by making use of the air stream and screens in the Dust and Waste Extractors to carry off the light separated impurities.**

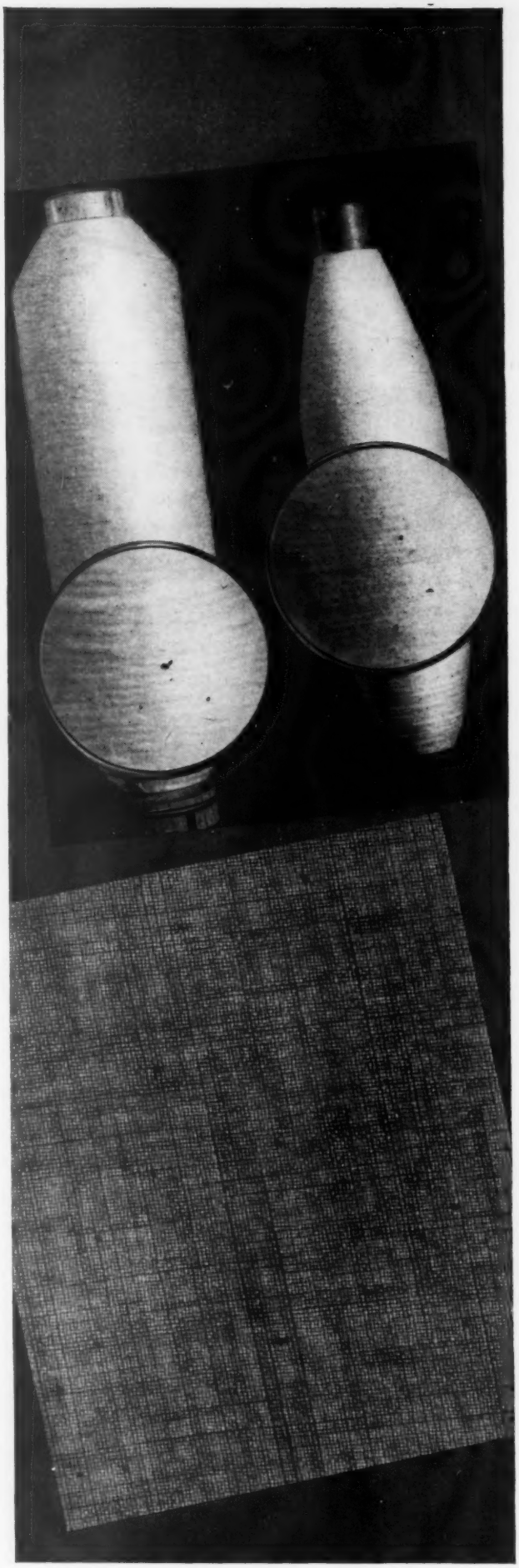
3 . . . **by making use of the centrifugal force and impacts generated by the beater in the Vertical Opener to carry the heavy impurities through the grid bars.**

4 . . . **with the Lattice Opener and Cleaner, preferably in tandem, to complete the reduction and opening of the stock.**

. . . and with the recirculating Air Filter used in conjunction with this equipment it is possible to maintain a stabilized and conditioned atmosphere in the opening room so that full regain is possible.

Remember, a modern Opening Room range is something more than a line of machines. To operate to the best advantage engineering as well as equipment is needed. Saco-Lowell offers you both.

If you have made no changes in your Opening Room within the last few years, it is quite probable that the inclusion of additional cleaning equipment can affect some worthwhile improvements in your present processing operations.



Saco-Lowell Shops · BOSTON

Shops at Biddeford, Maine

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"Which Squirrel-Cage Motor Shall I Buy?"

Open-Type? This general-purpose squirrel-cage motor meets about 9 out of every 10 application requirements; so chances are it's the design you'll select. Allis-Chalmers builds generously proportioned, rugged *open-type* squirrel-cage motors in sizes from 1 hp to the largest practical requirement.

Splash-Proof? Where operating conditions are conducive to entrance of particles or liquids into ordinary motors from either top or sides, Allis-Chalmers *splash-proof* squirrel-cage motors may be your best buy. They're designed to *exclude* top or side directed particles and liquids. Sizes 1 hp to the largest.

Vertical? or Flange-Type? *Either* can solve a space problem. *Vertical* motors (sizes 1 hp to largest) for vertical drives. *Flange-mounted* for side or angle drives. In both types bearings and closures are designed to prevent grease escapement. Mounting flange for attaching to your base can be provided.

Totally-Enclosed? Explosion-Proof? Completely weather-proof and fan-cooled, these motors are built to beat abrasive dust, dirt and corrosive fumes, or moisture conditions that cause windings in ordinary motors to deteriorate. *Explosion-proof type* for oil refineries, paint, varnish or lacquer plants, etc.; Underwriters approved; reduce hazards in explosive or dust atmospheres. Either type built from 1 hp and up.

Are Motor Decisions More Important Today?

YOU BET THEY ARE! One *obvious* reason is the need for keeping costs down. Another is that in the rush to fill demand much equipment is being misapplied; making it harder to maintain profits not alone today, but tomorrow, the next day and the next year—as long as misapplication continues!

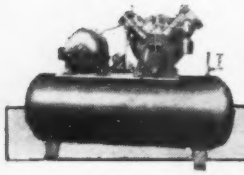
That's why it's important to take a good look at motors — their characteristics — your equipment — power source and surroundings — *before* you buy and apply! If you're in doubt, don't take chances — call a motor expert! ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2327

A CENTURY OF SERVICE to Industry THAT MADE America Great

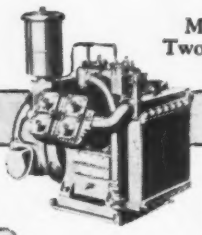
ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment-
Biggest of All in Range of Industrial Products

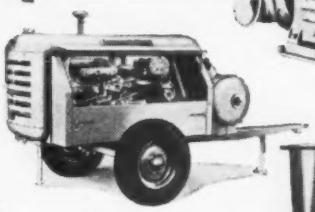
WHICH AIR POWER SYSTEM DO YOU NEED



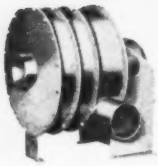
Type 30
Air-Cooled
½ to 15 hp



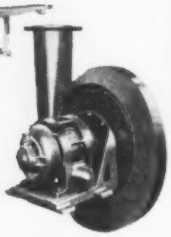
Motorcompressor
Two-stage Air-Cooled
25 to 90 hp



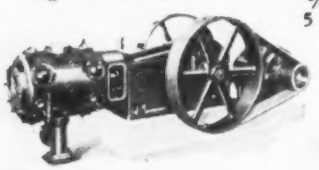
Type G Blower
½ to 2¼ psi
2 to 30 hp



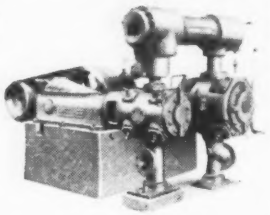
MOBIL-AIR
60 to 500 cfm



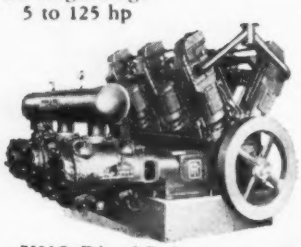
FS Blower
¾ to 3 psi
5 to 250 hp



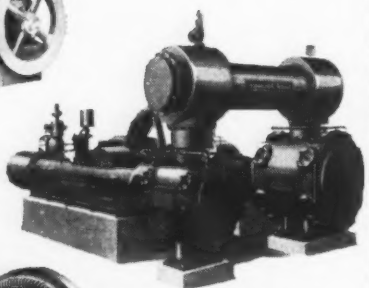
ES Single-Stage
5 to 125 hp



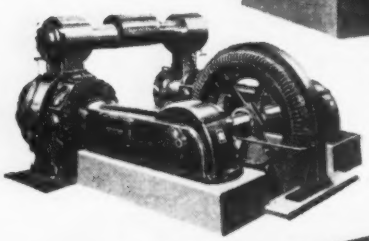
XCB Two-Stage
75 to 300 hp



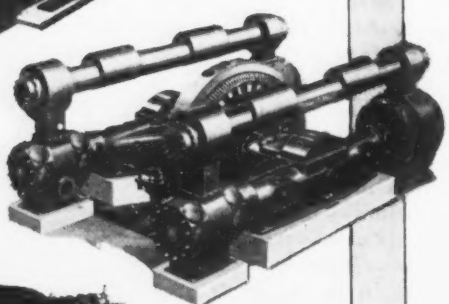
XVO Diesel-Driven
65 to 275 hp
(also 1200 hp
with gas drive)



XPV Steam-Driven
50 to 1500 hp

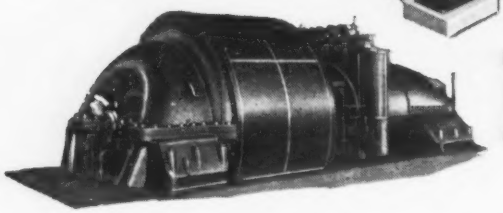


PRE Electric-Driven
300 to 1000 hp



PRE 4-Corner Type
1000 to 3000 hp

Turbo-Blower
up to 30,000 hp



☐ Centralized ☐ De Centralized ☐ Combined

?

LET I-R HELP YOU REACH YOUR DECISION

No matter which system you choose, you can select Ingersoll-Rand compressors to meet your requirements . . . from ½ to 30,000 hp . . . for any pressures or vacuums . . . air-cooled or water-cooled types . . . electric-motor, steam, gas, or diesel-engine drive . . . stationary or portable.

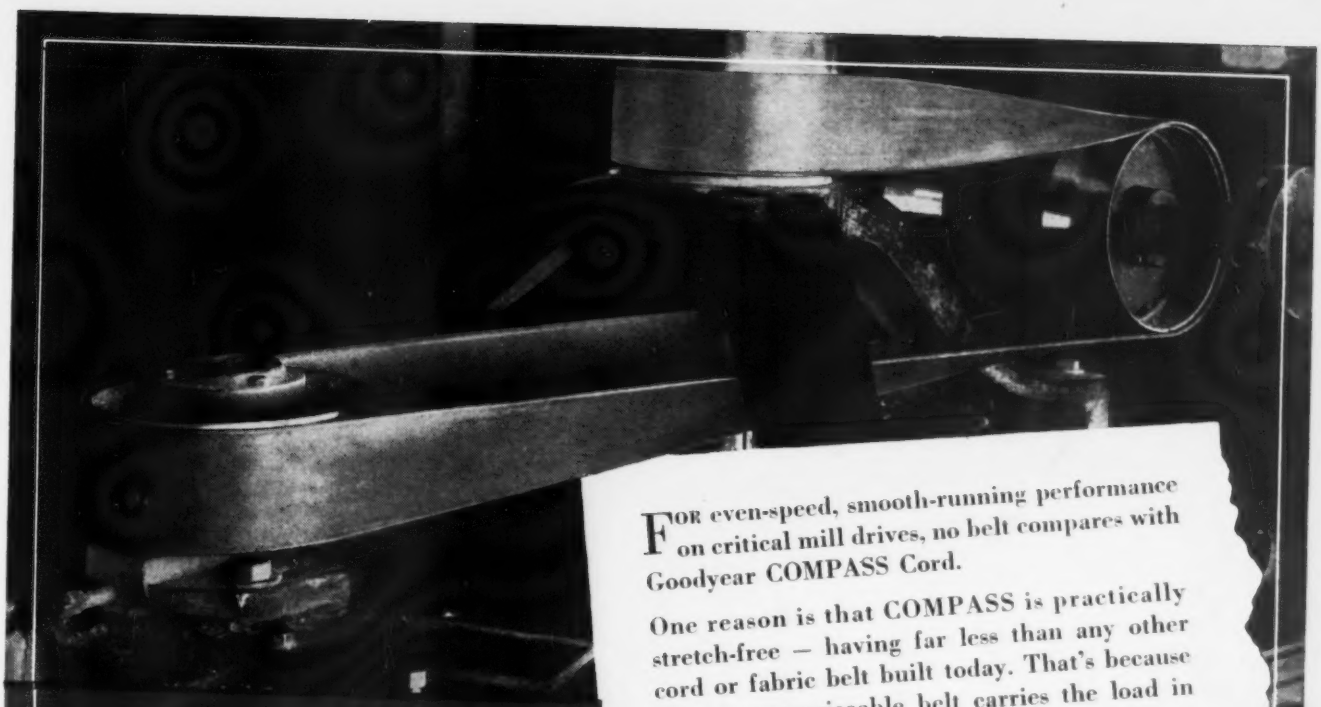
But first of all, choose *the system* that will give you Air Power where you need it, when you need it, and at the lowest possible over-all cost. What about your plant flexibility . . . floor space available at scattered locations where you *use* the Air Power as compared to space for a central plant . . . the availability and relative merits of electricity, steam, gas, or oil to drive the compressors . . . load factors and load cycles . . . attendance and maintenance?

These are just some of the questions you must run down before deciding upon a centralized, de-centralized, or a combination Compressed-Air System. These are the questions which the I-R Air-Power Specialist can help you answer.

Ingersoll-Rand

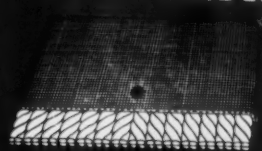
11 BROADWAY, NEW YORK 4, N. Y. 83-1

COMPRESSORS · AIR TOOLS · ROCK DRILLS · TURBO BLOWERS · CONDENSERS · CENTRIFUGAL PUMPS · OIL AND GAS ENGINES



It THRIVES on tough DRIVES!

GOODYEAR INDUSTRIAL RUBBER PRODUCTS
GTM-Specified COMPASS CORD ENDLESS BELT



Right-hand lay Left-hand lay

For Heavy-Duty Mill Drives

Note that the load-carrying cords on one side of the belt are right-hand twist — on the other side, left-hand twist. This patented Compass construction insures a balanced, true-running belt that will not "travel" on the pulleys.

FOR even-speed, smooth-running performance on critical mill drives, no belt compares with Goodyear COMPASS Cord.

One reason is that COMPASS is practically stretch-free — having far less than any other cord or fabric belt built today. That's because this super-serviceable belt carries the load in a layer of heavy-duty rope cords, spiraled continuously without a splice.

This unique, endless construction affords much greater strength and stamina. Result: COMPASS Belts are 25% thinner than other belts of the same power rating — assuring far longer flex life.

So on slubbers, spoolers, vertical openers, wherever belts find tough going, you can depend on COMPASS to do the job with unbeatable efficiency. The fact is, COMPASS will often deliver from two to more than four times the service of conventional belts — and the experience of countless mills proves it.

If you'd like that kind of belt performance on your hard drives, why not get the full story on COMPASS? Just consult the G.T.M. — Goodyear Technical Man — or write: Goodyear, Akron 16, Ohio or Los Angeles 54, California.

FOR HOSE, BELTING, MOLDED GOODS, PACKING — built to the world's highest quality standard, phone your nearest Goodyear Industrial Rubber Products Distributor.

Compass T.M. The Goodyear T. & R. Co.

GOODYEAR

THE GREATEST NAME IN RUBBER

Why DuPont... in textile fibers?

Du Pont for nylon—

...because nylon is the proudest product of Du Pont's years of textile fiber research and development. Du Pont engineers and textile technicians can tell you how to use, where to use, and what to expect from this lightest, strongest, loveliest of fibers.

Du Pont for rayon—

...because Du Pont has been active in rayon development since rayon's early days

...because Du Pont research pioneered in fine denier fibers

...because Thick-and-Thin rayon, high tenacity rayon, and other developments in rayon grew from Du Pont research.

and Du Pont because—

...a research staff of 800 men and women is constantly engaged in the development and perfection of fibers for textiles.

...the name Du Pont is a name you can sell to your customers, a responsible name, a well-thought-of name. And Du Pont men and women hold themselves responsible to continue the high standards of quality the name has come to mean.

ACETATE DIVISION • NYLON DIVISION • RAYON DIVISION
RAYON DEPARTMENT
E. I. du Pont de Nemours & Co. (Inc.), Wilmington 98, Delaware

For NYLON
For RAYON
For FIBERS to come...look to Du Pont

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

DU PONT
REG. U.S. PAT. OFF.

Expert Supervision Knows
When Card Clothing Needs to Be Replaced

The Tufferizing Process—developed, owned and used exclusively by Howard Bros. — cuts and forms wires with an accuracy never before obtained in the making of card clothing. The wires are formed with precision and placed accurately in the famous Tuffer Foundation . . . when drawn on the cylinder they fit snugly — *sides perfectly parallel and every point in place.*

The top notch superintendent knows that the cards taking the brunt of the work need to be inspected more often than the others . . . and that if maximum efficiency is to prevail, *all cards* must have uniformly high quality clothing.

Precision-made Tuffer Card Clothing meets the requirements of those who *know* the best . . . and *want* the best! It increases production, improves the quality . . . and reduces carding costs.

For complete information ask our representative or write to any Howard Bros. plant or office.

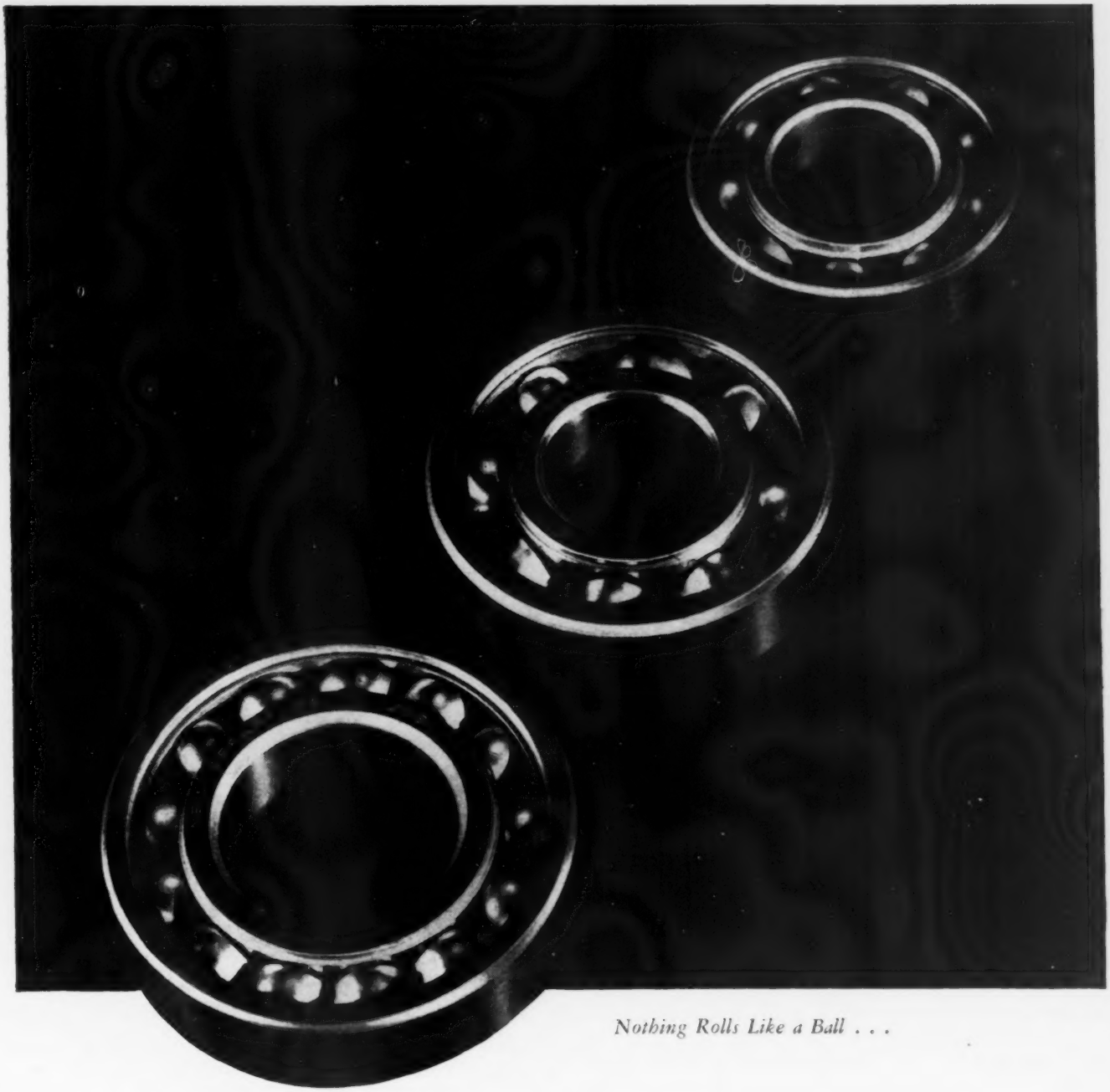
HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga., and Gastonia, N. C.

Branches: Philadelphia, Pa., and Blanco, Texas Direct Representation in Canada

A-2

TUFFER CARD CLOTHING ***IMPROVES PRODUCTION ALL ALONG THE LINE***



Nothing Rolls Like a Ball . . .

UNIFORMITY — Seed of Dependability

Not only in size or dimension, but in every design, metallurgical and manufacturing detail, New Departure insists upon the most exceptional uniformity.

As a result, the machine designer may select these ball bearings for various duties with the greatest possible assurance that their ultimate performance will completely justify his preconstruction calculations.

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONN. • Branches in DETROIT • CHICAGO • LOS ANGELES and other cities

How to Gain and Maintain a
Delicate Balance
In the operation of "Side-Slip" Feelers on C&K Looms
When a Loom-Clutch
Operates this easily...
...Here's what it means to you—
Crompton & Knowles Loom Works
THIS SMOOTH
"Brake-Action"
Acts to Prevent
Yarn-Breakage and Binder-Chatter
STOP
Here's one answer to the question:
"What's the Speed of a Loom Shuttle?"
Look through the Eye of
C&K's High-Speed Camera
...and see a Bobbin Transferred in 1/20th of a Second!
Crompton & Knowles Loom Works

MANY STUDIES . . .

One Objective . . .

to give you Finer Fabric at Lower Cost, from every New C&K Loom

▶How to increase shuttle-speeds, yet at the same time handle shuttle-velocity which *now* attains 40 mph from a dead stop in 1/30th of a second?

▶On the other hand, how to bring this speeding shuttle to a smooth stop so as to prevent yarn-breakage and binder-chatter?

▶How to select and substitute a full bobbin for an empty one, and complete the transfer in 1/20th of a second?

▶How to gain and maintain a delicate balance in "sideslip" feelers (which should be always positive-acting, yet never sever the yarn)?

▶How to provide "fingertip" clutch-operation, yet reduce adjustments, bang-offs, parts-breakage?

These studies and more have been detailed on these pages during recent months. But these are just a few of the projects in progress in C&K's Engineering Research Laboratories, each project aimed at the end-result of *increasing your own weaveroom efficiency and profit*. And to make sure of its value to you, every new idea produced by these studies . . . in method, material, or design . . . must answer yes to the challenge of *at least one* of C&K's "6 Sentries":

1. Does it increase Speed of Loom Operation?
2. Does it increase Ease of Loom Operation?
3. Does it improve Quality of Fabric?
4. Does it decrease Cost of Maintenance?
5. Does it improve Continuity of Operation?
6. Does it improve Appearance and Utility?

And there, we submit, is the *soundest future profit-protection* you can have!

Crompton & Knowles Loom Works

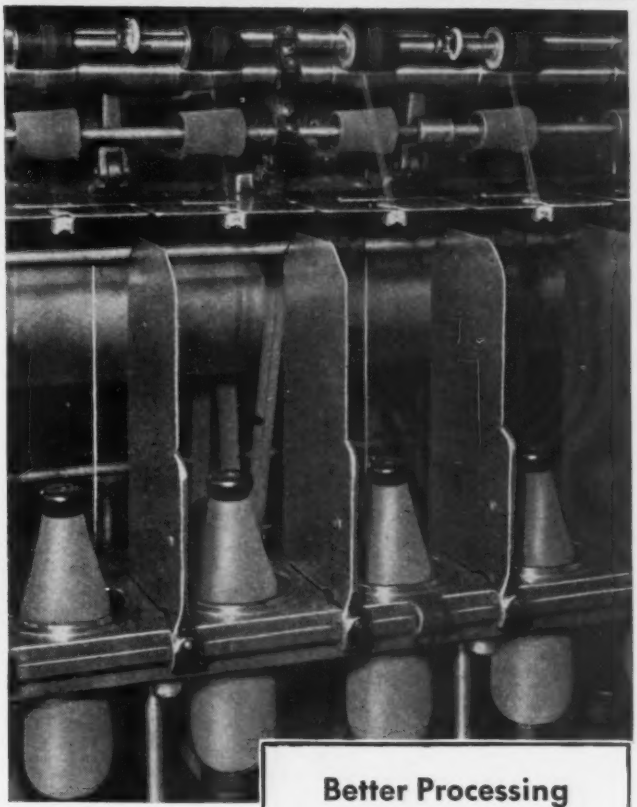
WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N.C. • ALLENTOWN, PA.

CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.

between Today's Knowledge . . . and Tomorrow's Looms

Longer Runs on the cards . . .

Stronger Yarns on the frames



S/V WOOLREX OILS

penetrate uniformly into the stock, scour out easily

For all around superior results, try S/V Woolrex Oils in your wool processing. From the time they're sprayed onto your stock until they're scoured out, they will give you many advantages.

For instance, in carding, you will get longer runs before stripping is necessary. S/V Woolrex Oils are free from gum-forming tendencies.

During your spinning operations, these superior oils will keep the fibers soft and pliable. Your rovings will draw out evenly without breaking.

Finally, and vitally important, these oils will scour out easily in conventional equipment with minimum amounts of soap. You improve operations and save time and money in all departments.

SOCONY-VACUUM OIL COMPANY, INC.
26 Broadway, New York 4, N. Y., and Affiliates:
MAGNOLIA PETROLEUM COMPANY
GENERAL PETROLEUM CORPORATION

Better Processing for ALL Textiles

Woolens . . . S/V Woolrex Oils improve carding and spinning. Scour out easily.

Worsteds . . . S/V Worstex Oils lubricate stock uniformly. Improve spinning.

Water Repellents . . . Special S/V Products give maximum repellency with minimum amounts.

Finishing . . . S/V Finishing Oils give excellent wetting, re-wetting and softening effects.

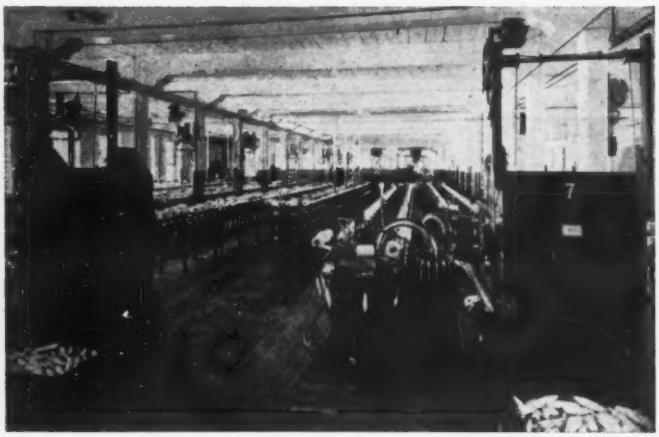
Shrinkage Process . . . S/V Finishing Oils insure quick, uniform re-wetting.

Rayon Processing . . . S/V Rayon Oils add softness to rayon fibers.

Process Products
SOCONY-VACUUM

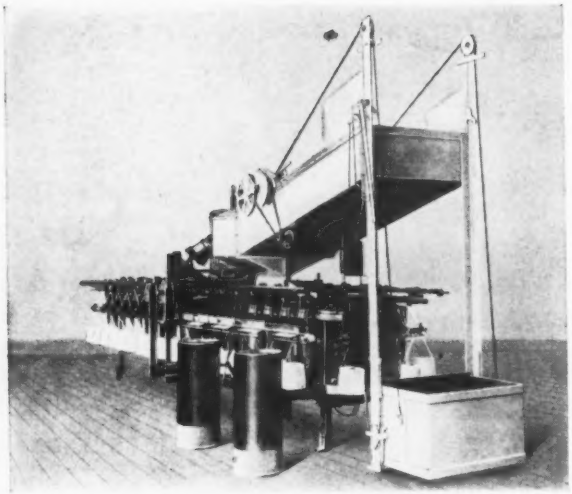
Socony-Vacuum Process Products

LEADERS IN THE AUTOMATIC WINDING FIELD



The only Automatic Winder that will wind the standard 6″ traverse on cheeses, warping cones, knitting cones, etc.

Production 900 to 1000 bobbins per hour with one operator



The only fully automatic loom bobbin winder. The empty supply quills and the full wound quills are handled automatically without attention by the operator.

Production 2000 or more quills per hour per operator; cotton, spun fiber, worsted, linen, paper, and filament yarns.

Dyeing and drying equipment for worsted and cut fiber top and for yarns.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Office ***Greenville, S.C.***

SANDOZ PRESENTS *the color achievement of the month*

Elizabethan Grey BY SUSKANA FABRICS

Here is a color that might have been seen on opening night at the Globe for Shakespeare's newest play . . . or, today, at some function honoring the present Elizabeth. Pale as an echo, the loveliest grey since the Sixteenth Century, it's called—with traditional justice—Elizabethan Grey.

This soft, warm broadcloth is woven by Susquehanna Mills, manufacturers of Suskana® Fabrics for women's wear, men's wear, neckties and upholstery. And Susquehanna is one of a long list of mills that count on Sandoz for colors that compliment the cloth.

For a color like the one illustrated, Sandoz offers its . . .

METOMEGA CHROME GREY GL

a grey that is outstanding for its fastness to light, washing and perspiration. Mill men will like particularly its level dyeing properties by all chrome methods and its unique stability to decatizing—a finishing treatment that rules out many otherwise suitable colors.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Los Angeles, Toronto. • Other branches at Providence, Paterson, Chicago.

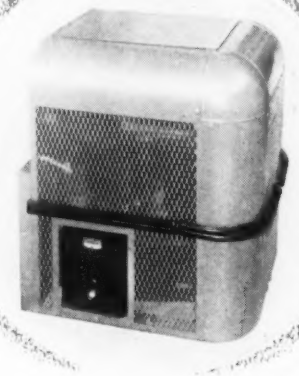
SANDOZ *thinks ahead with textiles*

SANDOZ

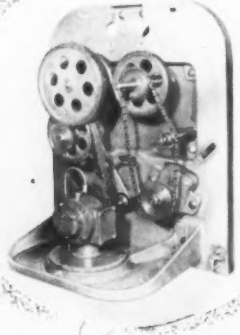
From motor pulley to twister package

HERE'S PERFECT POWERING

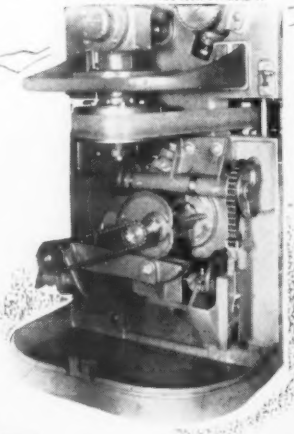
on the Atwood Ring Twister



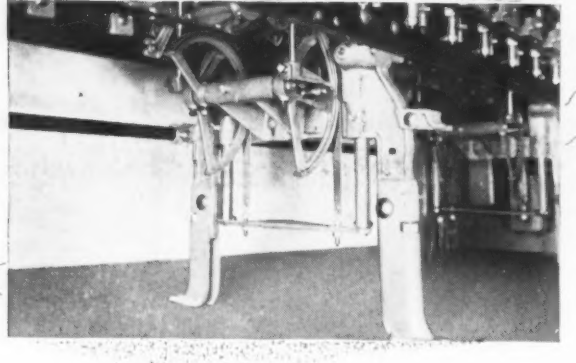
Grille-ventilated motor, with 3-point suspension and automatic belt takeup, powers single endless, lapless belt which drives 100 spindles at uniform spindle speed.



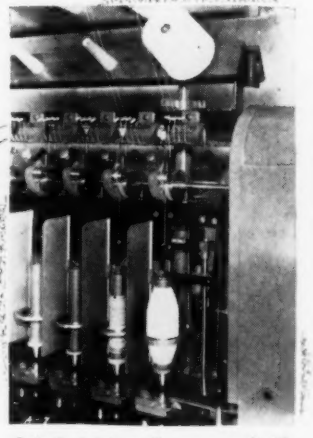
Matched spiral bevel gearing and chain drive give smooth operation of twist gearing. Only one gear to change when changing twist within the range of any twist constant. Geared end is totally enclosed.



Worm and worm gear of builder motion are enclosed in dust-tight housing and operate in oil bath. Eccentric adjustment eliminates backlash.



Lifter rod unit produces smooth ring rail motion. Segments, spring steel straps and lifter rods move in vertical line through bearings which are integral part of middle stand.



Spindle is integrally connected with automatic stop motion so knots can be tied in single ends, avoiding roller laps and short plies. Other spindles keep producing.

For doubling and twisting in one operation, consider the many advantages of the Atwood Model 10 Ring Twister. Send for bulletin.

ATWOOD DIVISION

STONINGTON, CONN.

Universal Winding Company

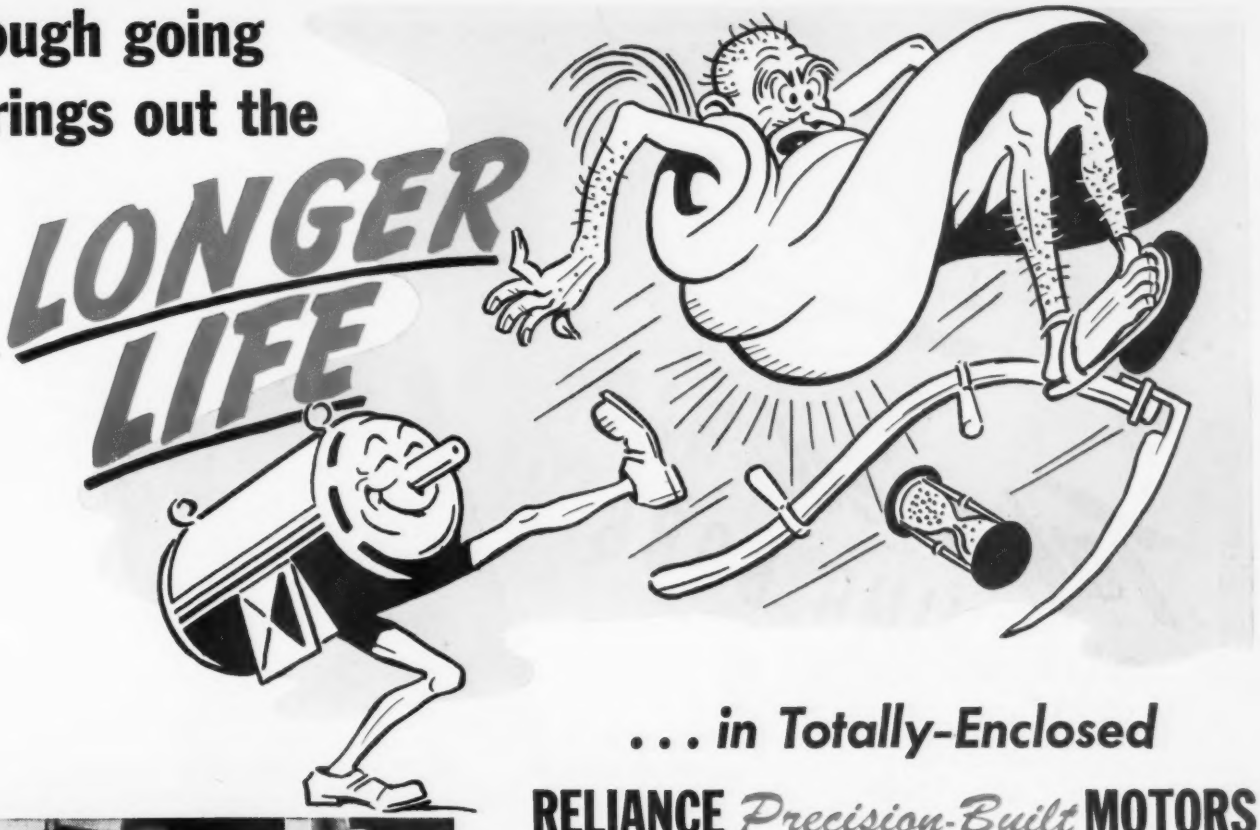
ATWOOD

Reg. U. S. Pat. Off.

Providence • Boston • Philadelphia • Utica • Charlotte • Atlanta • Chicago • Los Angeles • Montreal • Hamilton

Manchester, England • Paris, France • Basle, Switzerland. Agents in every principal textile center in the world.

Tough going brings out the LONGER LIFE

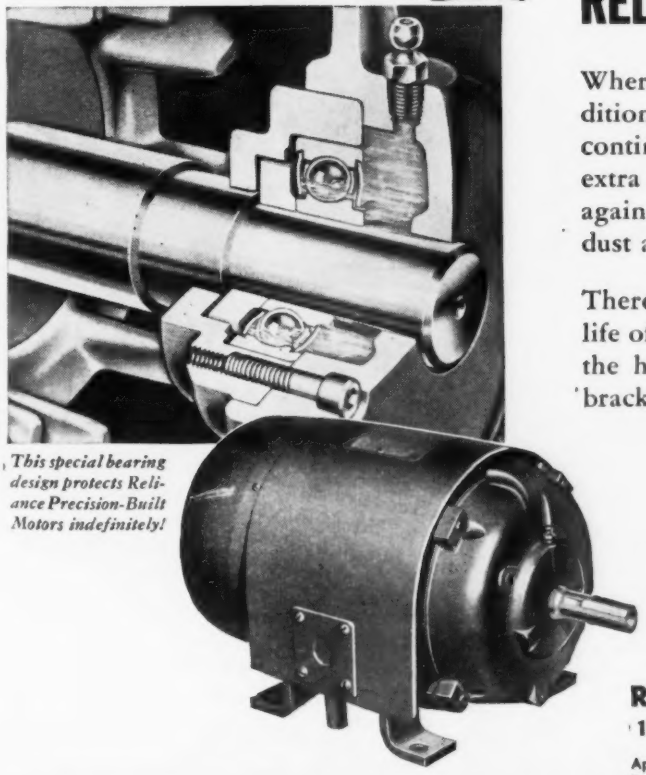


. . . in Totally-Enclosed

RELIANCE *Precision-Built* MOTORS

Wherever motors operate frequently under abnormal conditions, Totally-Enclosed, Fan-Cooled Reliance A-c. Motors continually amaze users by their longer life. That important extra protection they have—against moisture in the air, against liquids splashed or streamed right on them, against dust and abrasives—pays so much more than it costs!

There's *extra* protection inside, too—to make that longer life of dependable service doubly sure. Ventilation that licks the heat problem is provided by air drawn through end bracket and directed by baffles through streamlined passages. Thirteen-point winding treatment includes six special steps to assure the most effective insulation possible. And an improved bearing design eliminates all lubrication worries! Write today for Bulletin C-125 (Bulletin C-218 if interested in D-c. motors).



This special bearing design protects Reliance Precision-Built Motors indefinitely!

Reliance Totally-Enclosed, Fan-Cooled, Precision-Built Motor. *For convenience, conduit box of Reliance Motors may be mounted in any of four positions or completely eliminated, as shown here.*

RELIANCE ELECTRIC & ENGINEERING CO.
1086 IVANHOE ROAD • CLEVELAND 10, OHIO

Appleton, Wis. • Birmingham • Boston • Buffalo • Chicago • Cincinnati • Dallas Denver • Detroit • Gary • Grand Rapids • Greenville, S. C. • Houston • Kansas City Knoxville • Little Rock • Los Angeles • Milwaukee • Minneapolis • New Orleans New York • Philadelphia • Pittsburgh • Portland, Ore. • Roanoke, Va. • Rockford St. Louis • San Francisco • Seattle • Syracuse • Tampa • Tulsa • Washington, D.C. Sao Paulo, Brazil

RELIANCE A-C D-C MOTORS

"Motor-Drive is More Than Power"

A·P·T·

Tapered WARP SPINNING BOBBIN

STEEL REINFORCED

PLASTIC REINFORCED

3 REASONS WHY IT IS NOW STANDARD EQUIPMENT

The A. P. T. Tapered Warp Spinning Bobbin was developed at the request of, and in cooperation with, a leading manufacturer of high speed, large package cotton warp spinning frames, when this type of equipment was being developed. It is not strange therefore that the A. P. T. Tapered Bobbin has become standard equipment in this particular field.

Three major reasons account for its popularity, as follows: —

1. More and better spinning production due to the tapered construction of the bobbin. The larger diameter at the bottom puts less strain on the yarn at the start of the spin, and the tapered construction equalizes the tension over the full length of the traverse and permits larger packages of better production with fewer ends down.
2. More and better production in spooling and rewinding operations. The yarn comes off better from a tapered bobbin.
3. Finger tip seating. Spindle tip suspension and tough but resilient construction of bobbins permit positive seating with finger tip pressure. Thus the bobbins come off easily.

OTHER ADVANTAGES

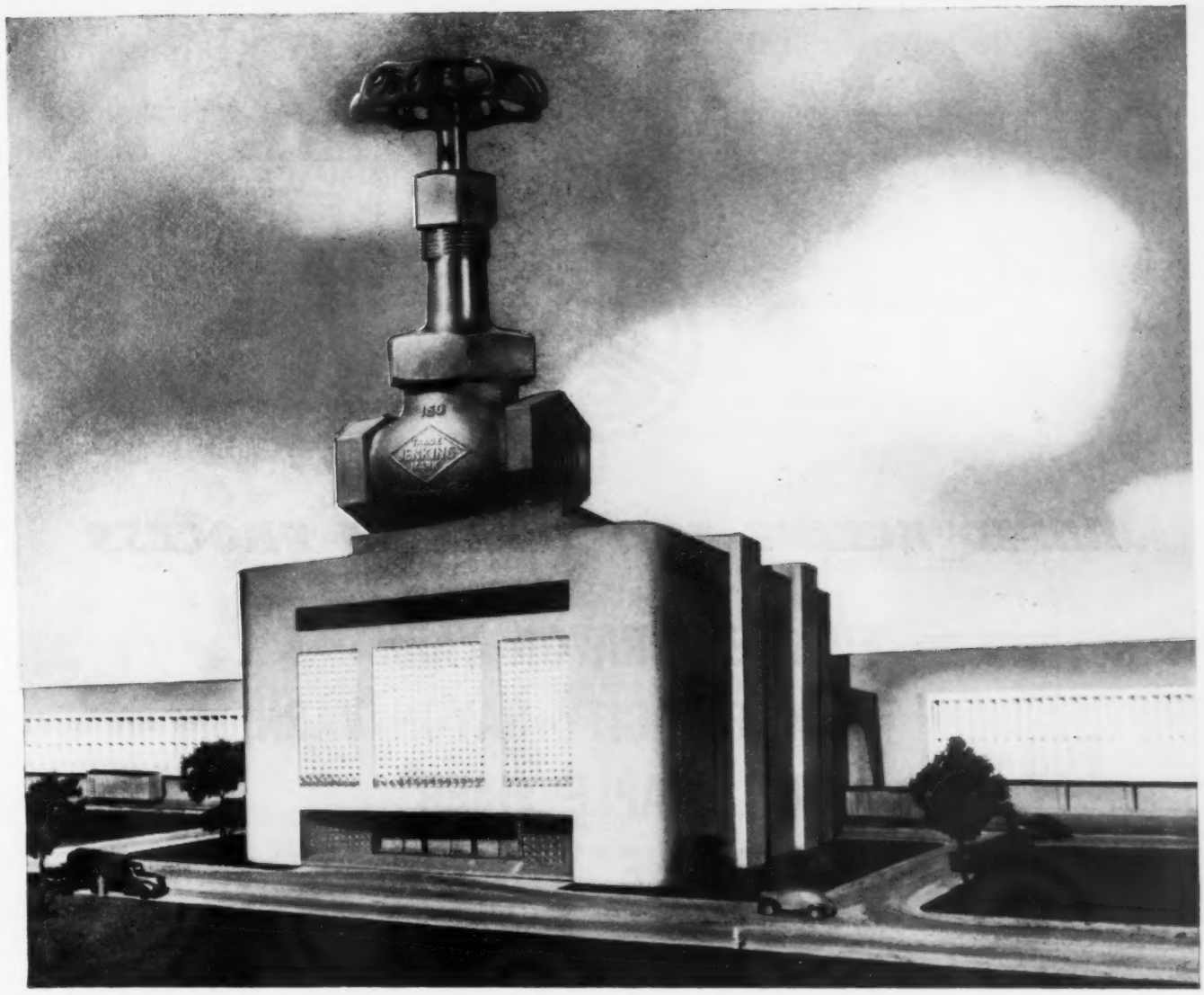
Like other A. P. T. Yarn Carriers, this tube is made of laminated paper impregnated for moisture resistance and hardened by baking. It is highly resistant to distortion, chipping and splitting, will not splinter and is free from static. Deep, well rounded corrugations permit free but controlled delivery. Give these superior carriers a chance to improve the quality of your production and to reduce costs. They are adaptable to the spinning, twisting or weaving of all types of fibres.

AMERICAN PAPER TUBE COMPANY

ESTABLISHED 1898

WOONSOCKET, R. I. GREENVILLE, S. C.

CANADIAN REPRESENTATIVE: HUGH WILLIAMS AND COMPANY, TORONTO, CANADA



There's Truth in this "Tall Story"

IF YOU THINK of *all valves* in this plant as *one valve*, you'll see the truth in this trick photo. Valves, collectively, represent one of the biggest investments in equipment in any plant.

That's why, with wages and material costs higher than ever before, it is just as important to keep a sharp eye on valve maintenance as it is on operating costs of larger plant units.

EXCESSIVE MAINTENANCE of one inferior valve is insignificant, but, multiplied by thousands, it becomes a serious drain on operating budgets.

JENKINS BROS. helps you meet this problem two ways. First, by building extra endurance into Jenkins Valves, making them the longest-lasting, lowest-upkeep valves that money can buy. Second, with advice from Jenkins Engineers on any question of proper selection, installation, or maintenance.

For all new installations, for all replacements, rely on Jenkins quality and engineering service for lowest valve costs in the long run. *Sold through leading Industrial Distributors everywhere.*

Jenkins Bros., 80 White St., New York 13; Bridgeport, Conn.; Atlanta; Boston; Philadelphia; Chicago; San Francisco.
Jenkins Bros., Ltd., Montreal.

"PREVENT VALVE FAILURE" is a 28-page guide to valve economy, fully illustrated, with case histories of valve damage, and recommendations for its prevention by proper selection, installation, inspection, and maintenance. FREE on request. Write JENKINS BROS., 80 White St., New York 13, N. Y.

LOOK FOR THIS DIAMOND MARK
SINCE 1864

JENKINS VALVES

Types, Sizes, Pressures, Metals for Every Need

KOHORN

RAPID AGEING AND SPINNING PROCESS

FOR

FILAMENT RAYON YARN
HIGH TENACITY RAYON YARN (for tire cord)
RAYON STAPLE FIBER
CELLOPHANE

SHORTER THAN ANY OTHER PROCESS AVAILABLE

SAVES SEVERAL DAYS IN PRODUCTION TIME

MAINTAINS uninterrupted process flow.

REDUCES machinery investment and maintenance cost.

REDUCES floor space and air-conditioning costs.

IMPROVES quality and uniformity of product.

SIMPLIFIES plant operation and reduces labor cost.

Fifteen New Filament Rayon, Rayon Staple Fiber and Cellophane Units are now being supplied by us on Four Continents for a Daily Production of 70 Tons, or an Annual Output of 55,000,000 lbs.

We design, install and put into operation complete plants for filament rayon yarn, rayon staple fiber and cellophane.

* *

Manufacturing special equipment in our own machine shops helps us supply complete plants in twelve months.

* *

Our large staff of engineers, chemists, erectors and production supervisors will install the equipment for you and introduce our latest production methods.

* *

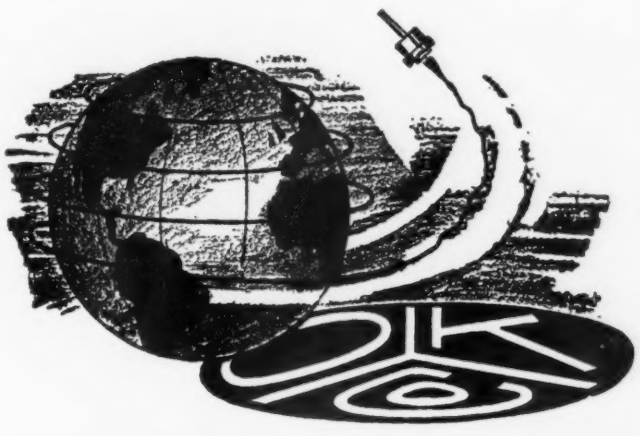
Our experimental plant and research staff assure our clients of the most modern and efficient machines and processes.

* *

A world-wide engineering organization and offices in several countries enable us to furnish expert advice and prompt service to our clients.

* *

We have engineered, equipped and operated more rayon plants than any other organization in the world



Let us plan your factory, select a plant site, recommend the most suitable machinery and process flow, supply and erect the full range of equipment, put your plant into operation, install our latest methods of quality and cost-control, and furnish consulting services or complete operating management.

Pioneers of the Rayon Industry

OSCAR KOHORN & CO., LTD.

Executive Offices — 501 Fifth Avenue, New York 17, N. Y. U. S. A.

90% OF ALL V-BELT DRIVE PROBLEMS SOLVED ECONOMICALLY WITH TEXROPE

Pre-Engineered Drives

TEXROPE ..Greatest Name in V-Belt Drives

This New Manual Lists them for Quick Reference
You find number, size and length of belts, diameters of sheaves, power, speed, center distances in one place.
Edge index and classified index make this manual, fast, easy to use. It's a complete V-belt drive reference work.
Complete V-belt drive engineering data tables are included in manual, for figuring special drives.
Stock Texrope Drives
TEXSTEEL OR TEXDRIVE SHEAVES
3 HP
1150 RPM MOTOR

"Super 7" V-BELTS
Five Types — Sizes to suit every power transmission job.

Texsteel, Texdrive, "Magic-Grip"
— sheaves in a full range of sizes, grooves.

"Vari-Pitch" SHEAVES
Exact variations in speed, stationery or motion control.

SPEED CHANGERS
Speed variations up to 375% at the turn of a crank.

ENGINEERING
Finest V-Belt engineering talent in the world—at your call.

TEXROPE "Super 7" V-Belts result from the cooperative research of two great companies — Allis-Chalmers and B. F. Goodrich. They are sold only by A-C.

USING STOCK BELTS AND SHEAVES, Texrope engineers have selected the *best* drive for each requirement . . . the drive most economical in first cost and in maintenance.

Only Allis-Chalmers offers you this complete Pre-Engineered drive manual. It is the product of 23 years of industrial V-belt drive experience, the finest engineering talent in the business.

Here is a book that will save you time and money in the purchase of V-belt drive equipment. Copies have been sent to many Texrope users and dealers. If you don't have a copy yet, write for Texbook No. 20P40. ALLIS-CHALMERS, MILWAUKEE 1, WIS. A 2335

Texrope, Super-7, Texsteel, Texdrive, Magic-Grip and Vari-Pitch are Allis-Chalmers Trademarks

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

A CENTURY OF SERVICE to Industry THAT MADE America Great

It will pay you to re-investigate

YARMOR

Hercules Pine Oil

WETS AND PENETRATES

REMOVES DIRT AND GREASE

SAVES SOAP—SAVES MONEY

RINSES CLEAN

Once again Hercules Yarmor® is back in full supply!

This superior textile wetting agent is not just ordinary pine oil or a pine oil substitute, but a product quality-controlled for optimum terpene content, maximum wetting, penetrating, and emulsifying action.

Mail coupon today for your copy of the book, "Hercules Pine Oils in the Textile Industry," or request the expert services of a Hercules chemist to aid you in solving your dyeing and wet processing problems.

HERCULES POWDER COMPANY
INCORPORATED
994 Market Street, Wilmington 99, Delaware

Please send free book, "Hercules Pine Oils in the Textile Industry."

Name_____

Title_____

Company_____

Street_____

City_____ Zone____ State_____

HYS-1

HERCULES

® REG. U. S. PAT. OFF.

FOR YOUR INFORMATION

STYMER NOW IN NEW CONVENIENT FORM

Those who have already learned the advantages of Monsanto's Stymer in improving acetate sizing will welcome this month's news . . . Stymer is *now available in sodium salt form.* This new formulation, is soluble in water, eliminates the pH control problem and eliminates the use of sodium hydroxide in your plant.

All other advantages of Stymer for acetate sizing are retained:

- New toughness at high humidity
- New flexibility at low temperature
- Minimum static in slashing and weaving
- Sticking to dry cans eliminated
- Shedding minimized
- No gelling when cold, no setting up in pipes
- Broken filaments in warp picked up
- May be applied from size bath at any temperature 130° to 160° F.
- Easily washed out when necessary

For more information about Stymer in sodium salt form, mark item B-1 in the coupon opposite.

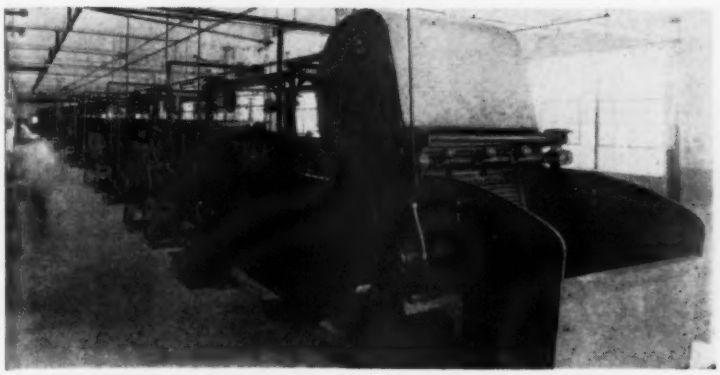
Wrinkl-Shed Cotton

Wrinkl-Shed cotton developed by Dan River Mills with Monsanto's Resloom* Formula C for Wrinkle-Resistant Cotton is now being announced to the consumer in a nation-wide promotion in all leading fashion magazines. Wrinkl-Shed cotton has been developed first in cotton tweeds for resort clothes by Carolyn Schnurer, famous designer. The garments are on sale in 45 Peck & Peck stores in the East and Middle West, and by Jos. Magnin stores on the Pacific Coast. Dan River is expected shortly to present Wrinkl-Shed cottons in ginghams, corded chambray, etc. If you would like to see copies of Monsanto's announcement of its participation with Dan River in the Wrinkl-Shed cotton promotion, use the coupon below. Check Item B-3.

Patterns on Pile Fabric Obtained with RESLOOM and STYMER

By roller printing Resloom and Stymer on a pile fabric, curing and then acid dyeing, we have recently created some extraordinarily beautiful upholstery materials. Because the dyes affect the treated and untreated portions of the fabric unequally, a distinctive, sharp, two-tone effect is gained. The fabric was a wool acetate blend. The hand remained soft and pliable.

For more details about this application check item B-4 on the coupon.



FOR THE TOUGHEST CLEANING JOBS: STED, A NEW DETERGENT

STED is a powerful, new, detergent for efficient industrial scouring. Effective on all types of fibers in practically every washing operation, Sted was developed to solve the toughest textile problems in scouring, washing and cleansing. Strongly recommended for raw wool scouring, Sted also is desirable for backwashing, desizing, kier boiling, hosiery scouring, printed and dyed goods soaping. Superior performance, ease of operation and low cost make Sted a leading economical detergent for large-scale textile washing.

Sted is chemically mild and non-sudsing; yet its cleaning power has been established in practical field tests and in laboratory evaluation under mill conditions. These tests have proved that foam is not necessary for good detergency.

The new product not only removes soil but holds it in suspension to prevent redeposits on the fiber. It is stable to acid or alkali, soluble in hard or soft water. Sted rinses quickly, easily and thoroughly without the formation of foamy scums and the development of odors common with fatty acid derivatives.

So mild it won't damage the most delicate fiber, Sted's non-ionic nature, high potency, non-substantivity and moderate pH values make it particularly effective in wool scouring. Very low grease retention is obtained and the wool is loftier, more open and brighter. No oily film is deposited on the wool as with substantive detergents and bath strengths are not greatly lowered. For full information check B-2 in the coupon.

Tests Prove Washable Wools Are Here

Independent tests conducted for wool shrinkage in men's shirts treated with Resloom W, showed the following results, after five launderings *in an automatic washer*

Collar	0.8%
Shoulder Gusset	0.0%
Right sleeve	0.4%
Front length	2.7%
Back width	1.0%
Back length	2.5%

This means no change in marked size; there was no change in color, no felting, no stiffening of the "hand." The cycle; two five minute suds at 100° F. neutral soap and four two minute rinses.

The shirts Bloch-Heller's "Game & Lake" brand made from North Star's "Nocturne" fabric used for this test were bought over the counter at Filene's, Boston, and turned over direct to an independent laboratory.

For more information on washable wools check B-5 in the coupon. Resloom, Stymer ®

MONSANTO
CHEMICALS—PLASTICS
SERVING INDUSTRY . . . WHICH SERVES MANKIND

USE THIS COUPON TO BRING YOU PROMPTLY FULL INFORMATION ON MONSANTO TEXTILE CHEMICALS

Monsanto Chemical Company
Textile Chemicals Dept.
Department TWT-2
140 Federal St.,
Boston 10, Mass.

Please send me information on the following:

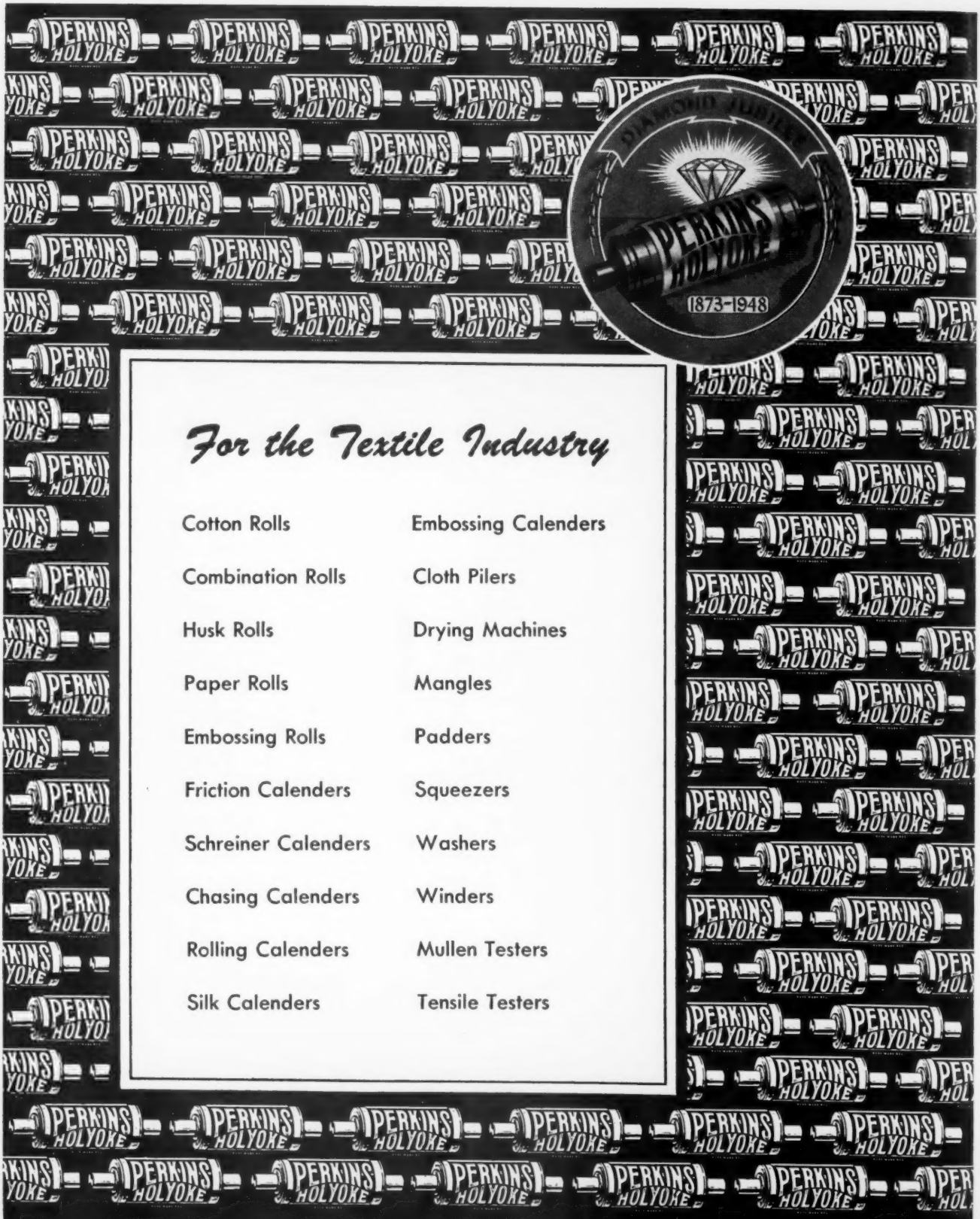
B-1, B-2, B-3, B-4, B-5.

Name.....Title.....

Company.....

Address.....

City.....State.....



For the Textile Industry

Cotton Rolls	Embossing Calenders
Combination Rolls	Cloth Pilers
Husk Rolls	Drying Machines
Paper Rolls	Mangles
Embossing Rolls	Padders
Friction Calenders	Squeezers
Schreiner Calenders	Washers
Chasing Calenders	Winders
Rolling Calenders	Mullen Testers
Silk Calenders	Tensile Testers

B. F. PERKINS & SON, Inc.

ENGINEERS AND MANUFACTURERS

HOLYOKE, MASS.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

How to Increase Production

...without adding manpower!

● It is an established fact—proved by companies in every line of business—that Glidden can show you how to increase production without adding manpower. The simple answer is the scientific use of white and colors in Glidden SPRAY-DAY-LITE, according to a *Sight Perfection* painting plan which Glidden experts will design especially for your plant.

With this *Sight Perfection* plan and SPRAY-DAY-LITE, America's fastest-selling interior maintenance paint, companies have upped lighting efficiency *as much as 102%!* Provide better visibility—create safer, pleasanter, morale-building working conditions this way and you can measure the results in increased production and lower costs! For 18 years, since establishing the paint industry's first laboratory devoted exclusively to research on functional color, Glidden has been developing this service which is now offered to you without charge. Start things moving by returning the coupon below today!

Glidden

Pacemaker in Paints

THE GLIDDEN COMPANY, Dept. VV-2
11001 Madison Ave., Cleveland 2, Ohio

☐ Please send literature to indicate the practical and thorough nature of the *Sight Perfection* painting program you will design especially for us.

☐ You may have your representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.

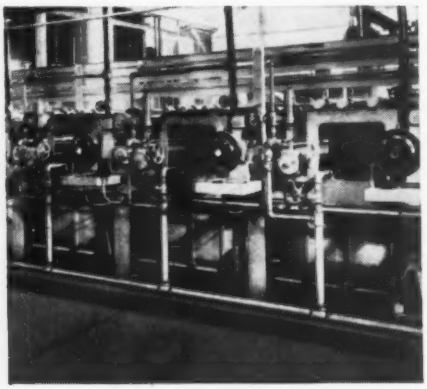
NAME .....

COMPANY .....TITLE.....

ADDRESS.....

CITY, ZONE, STATE.....

HOW THESE OPERATIONS CAN SOLVE THESE PROBLEMS FOR YOU



SOAPING VAT COLORS

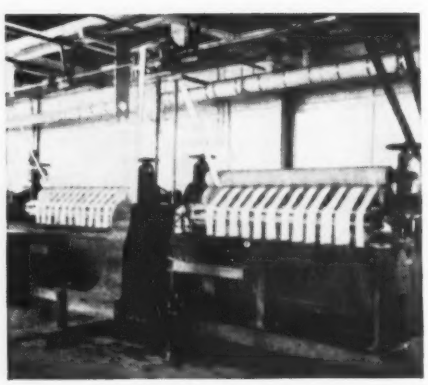
1. **Removing excess and lightly attached dye-stuff.**
2. **Getting clear, bright colors that will not rub off.**

Mere soaping alone isn't the answer to these two problems. It takes a *good soaping* with Armour's FLINT CHIPS to remove excess dye-stuff, clear the whites, brighten the colors. Since maximum soaping results are attained at about 180°-190° F., high titer FLINT is ideal. Besides, you get a thorough boil with FLINT, because it stays active even under steam. Results—sparkling, clean cottons!

FULLING, SCOURING REWORKED WOOL

1. **Fulling and cleaning the wool in a minimum amount of time.**
2. **Obtaining a clean, clear-looking piece of fulled cloth.**

For really successful fulling and scouring it takes Armour's TEXSCOUR Soap. TEXSCOUR, a red oil base soap in flake form, affords superior wetting and penetrating properties. At the same time, it has enough *body* for the fulling job. Good scouring must be done at low temperatures to keep the wool from felting and shrinking. That's why 8-12° titer TEXSCOUR cleans up fibres, leaves wool soft and resilient.



DESIZING COTTON

1. **Freeing cotton goods from sizing, prior to dyeing.**
2. **Avoiding spotty dyeing and uneven shades to secure a uniform finish.**

In desizing cotton, you need high wetting and penetrating properties rather than high detergency—a synthetic rather than a soap. The best solution to your problems is Armour's REGAL Synthetic Detergent. REGAL is a modern all-purpose synthetic that is readily soluble in cold or hot, soft or hard water. It rinses quickly and freely without insoluble deposit. Because of its swift penetration rate, REGAL reduces the time required for desizing operations, yet finished goods are free from sizing and permit level, uniform dyeing.

Remember, There are Armour Soaps and Synthetic Detergents to Solve All Your Textile Problems

ARMOUR and Company

Industrial Soap Division

1355 WEST 31ST STREET • CHICAGO 9, ILLINOIS

NEW Roll Covering

Specially designed for running synthetic and natural fibers, the new red Dayco Type "SE" Roll Covering processes synthetics with greater uniformity, with less lapping up and practically no ends down. Not affected by heat or humidity, The Dayco Type "SE" Roll Covering will give the same uniform service throughout its extremely long life. Remember, whether you're running cotton, wool or synthetics there's a mill-proved Dayco especially engineered for your frames. For complete information write Dayton Rubber, Dayton, Ohio, or *Textile Division—Main Sales Office, Woodside Bldg., Greenville, South Carolina.*

DAYCO ROLL COVERINGS
are available for drawing all types of fibers

Whether your frames are equipped with flat or revolving clearers, there is a specially engineered Dayco for maximum results.

TYPE "C" for revolving clearers. Precise, accurate accounting records show the cost per hour of operation is less—with Daycos.

TYPE "S" especially designed for flat clearers, where eyebrowing is a problem. Spinning room overseers, everywhere, acclaim Daycos' ability to draft uniform yarn.

Dayton Rubber
THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

Change TWISTED-IN DIRT

Precipitron traps the "invisible" air-borne particles

that cause streaked yarns and ruin top production.

It takes more than conventional air cleaning methods to avoid daily spinning losses. For no matter how efficient mechanical filters are, they are not designed to eliminate the 85% of air-borne particles of smoke, soot, and oily dust that are smaller than 1–25,000th of an inch. And it is this 85% that causes a high percentage of the damage in soiled yarns right in the twister room—and adds to the loss during high speed winding.

Westinghouse Precipitron operates on a principle of electronic air cleaning that gives three to five times the efficiency of ordinary mechanical air filters. It removes up to 90% of ALL microscopic air-borne particles *before* soilage can do harm. Precipitron traps "invisible" dirt as tiny as 1–250,000th of an inch, as proved by actual blackness tests.

Investigate Precipitron now for your mill. See for yourself why so many of the country's leading mills have installed this simple-to-operate system that means increased production and higher quality. Just call your nearest Westinghouse office, or write to: Westinghouse Electric Corporation, Sturtevant Division, Hyde Park, Boston 36, Massachusetts.

*Trade Mark of the Westinghouse Electric Corporation, Sturtevant Divison, Reg. U. S. Pat. Off.

BLACKNESS TEST

In this test of the National Bureau of Standards, air is drawn into the test instrument and passed through chemical filter paper. Dirt deposits are taken before and after the cleaning device.

Uncleaned Air | Mechanically Cleaned Air | Precipitron Cleaned Air

to TWISTED-IN PROFITS WITH Precipitron*

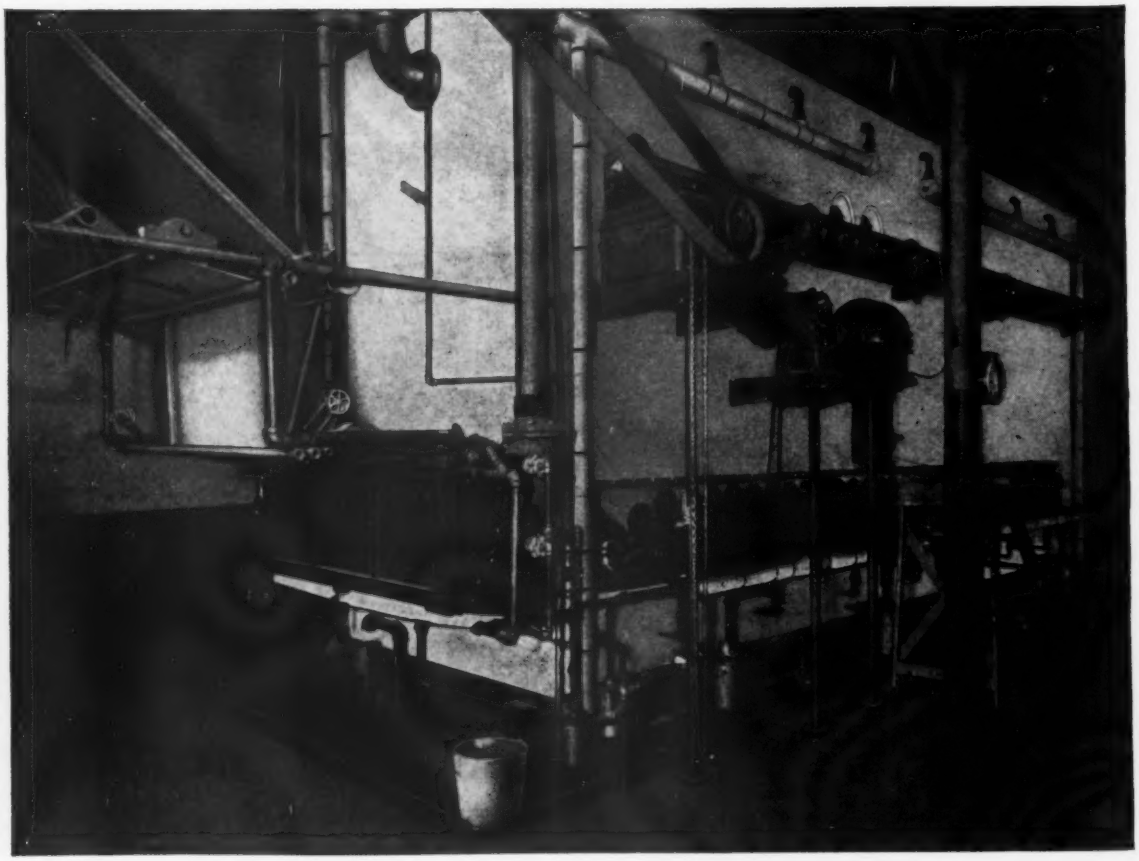
COTTON OR RAYON SPINNING

Here's where Precipitron saves by eliminating streaked and dirty yarns. Note the immaculate guides, free from dirt and oil mist. As the air is recirculated through the Precipitron, air-borne dirt originating from the machines is also removed and really *clean* air is delivered to the throwing room.

J-80022

Westinghouse
Sturtevant Division

AGING MACHINE



The New England Butt Company Ager is designed primarily to avoid damage to fabrics due to condensation and tension. This design includes a special feature—a pre-heating chamber or ante-chamber that brings the cloth to temperature before entering the ager proper.

Rolls are operated in specially designed ball bearing housings, so designed that a minimum of maintenance is required.

Machines may be operated on either the pond or the dry system, and a minimum amount of steam is required.

Write for Details

NEW ENGLAND BUTT COMPANY

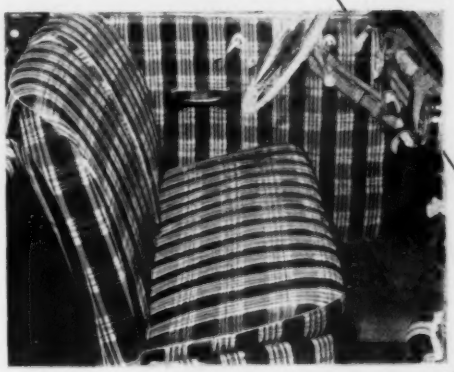
ESTABLISHED 1842

304 PEARL STREET

PROVIDENCE 7, RHODE ISLAND, U. S. A.

SARAN

BY NATIONAL



"MADE OF SARAN"... means products that are going places... and for good reason! Monofilaments of Saran weave sales-making beauty and long life into functional fabrics destined for constant service. These flexible filaments, now available as fine as .005", are easy to weave—easy to work—and require no preparation for warping and quilling. There's endless inspiration for designers in the extensive range of colors in Saran . . . colors that are an inherent part of the fiber and will last as long as the fabric itself. You can't scuff or snag Saran—and it is resistant to dirt, stains, alcohol and most acids. It's the fabric for enduring, carefree beauty—ideal for automobile seat covers! That's why it is a favorite where products set the pace for distinction—and for sales.

THE
National plastic products company
ODENTON • MARYLAND

New York: Empire State Building • Los Angeles: Bankers Building

SARAN BY NATIONAL *denotes monofilament, rattan and tape manufactured by The National Plastic Products Company from Dow's Saran, and supplied to mills, weavers and other fabricators.*

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE

NEW YORK 16, N. Y.

Telephone: Murray Hill 3-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

A recent installation of Model "L" Cards at Alma Mills, Gaffney, S. C.

WHITIN MACHINE WORKS ANNOUNCES ITS NEW MODEL "L" CARD

WHITINSVILLE Jan. 1947 (WMW) Whitin Machine Works today announced the new Model "L" Card. The development and building of this machine is said by officials of the company to represent an important step forward in cotton carding. The card has been thoroughly tested under ... conditions with entirely satisfac...

UP-TO-DATE *Report* ...on an up-to-date CARD!

Our new Model "L" Card was first announced to the industry a year ago through the textile trade journals. Since then the wide spread acceptance of, and demand for this model has proved its exceptional merit.

Literally hundreds and hundreds of these cards have been built and installed. Reports from mill after mill are always the same . . . favorable reports of better production, greater efficiency, increased cleanliness and quieter operation.

Numbered among the many new and beneficial features of the Model "L" Card are:

- Card frame, cylinder bearing pedestals, and arches have been strengthened to provide greater rigidity which is especially beneficial in maintaining card settings.
- Improved Top Flat Drive, Spiral Brush Drive, Coiler and Calender Drives are provided.
- Feed Roll weighting has been simplified, and the Feed Plate has been strengthened to resist pressure deflection.
- Oilite bearings have been provided in many locations to insure better lubrication.
- All gears have cut teeth for quieter operation.
- Surfaces and Contours have been restyled to facilitate cleaning.
- Adjustments can be made with greater ease and convenience.

These and many other features combine to make this model an up-to-date, smoothly operating, highly efficient card. Write today for our illustrated folder giving complete details and technical data.

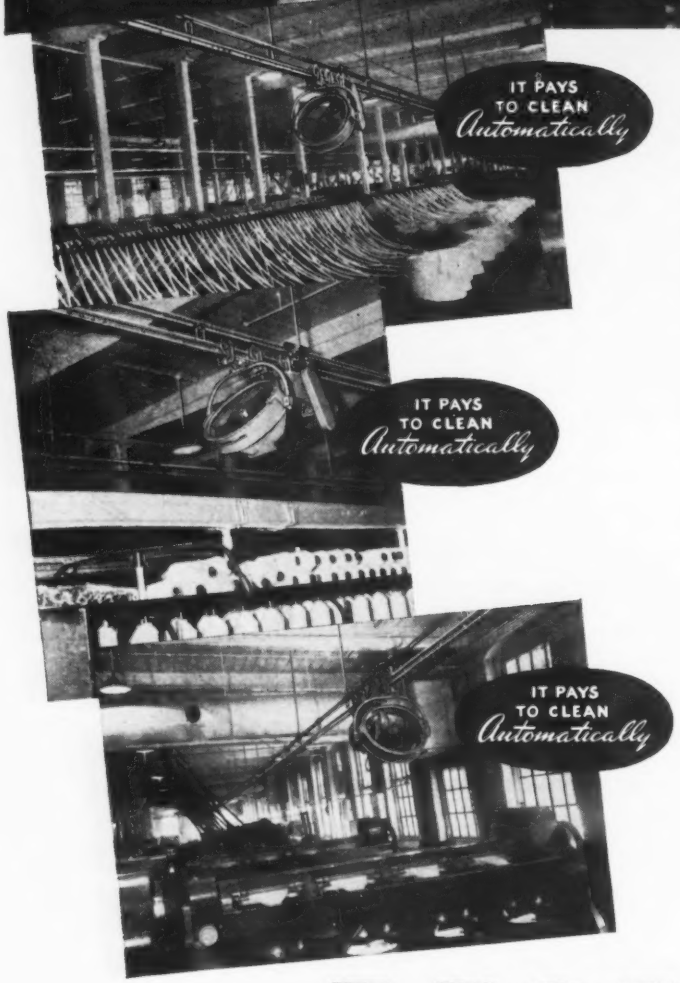
Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA.

Automatic CEILING CLEANING

by AMERICAN MONORAIL



Mops, brooms and air hoses are out as far as ceiling cleaning is concerned. High labor cost and lost production during time down make these tools obsolete. In one mill these costs amounted to approximately $1.50 per hour—the cost of installing automatic ceiling cleaning was absorbed by savings in less than a year.

Automatic cleaning is installed on overhead monorail track. A high-velocity propeller type fan unit travels around a loop of monorail track and sends a blast of air against the ceiling preventing any accumulation of lint or fly.

Fans may be adjusted to reach any spot in the room. Automatic ceiling cleaners are no longer an experiment. They are being installed in many mills. Let an American MonoRail engineer give you complete details.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

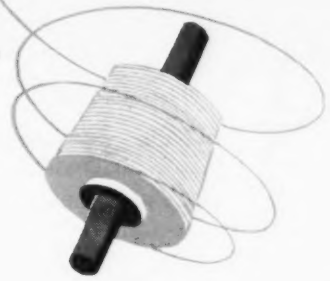
New

SPOOLERS

get the right start

for a long life...

when the Gulf Lubrication Engineer is "in the picture"



In this progressive southern mill, the Superintendent of spinning (right) and the Overseer of spooling discuss the lubrication of this latest type spooler with the Gulf Lubrication Engineer (left).

IF you're installing new spoolers—or any other new equipment—you'll want to insure your large investment as thoroughly as possible against premature mechanical failures, below-par performance, and high maintenance costs.

Here you'll find the services of a Gulf Lubrication Engineer very helpful. He will make a complete survey of each unit of equipment and study your particular operating conditions to determine their influence on lubrication.

After analyzing every important factor, he will recommend for every moving part a Gulf quality oil or grease which will provide maximum protection against wear. Then you can be sure you've made the right start—not only for a long life, but for a trouble-free life with low costs for maintenance.

For the co-operative counsel of a Gulf Lubrication Engineer, write, wire, or phone your nearest Gulf office today.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation · Gulf Refining Company

Division Sales Offices:

Boston · New York · Philadelphia · Pittsburgh · Atlanta
New Orleans · Houston · Louisville · Toledo

REPUBLIC *Enduro* STAINLESS STEEL

Permits Fast Color Changeover

This modern yarn die vat is a typical example of the many applications of Republic ENDURO Stainless Steel in the textile field. Other applications include bleaching equipment, dry cans, tables, valves, reels, hosiery forms and many more.

Here's but one of the time-saving advantages of textile equipment made of lustrous, long-wearing Republic ENDURO Stainless Steel—the metal that's easy to clean and easy to keep clean.

With ENDURO dyeing equipment, you can change from dark to light shades in a hurry . . . no costly boiling-out period is required . . . and there's no danger of color carryover.

Sounds interesting? That's only part of the story. Get *all* of the facts about ENDURO's many money-saving applications in the textile industry by writing for a copy of Republic's new 20-page Booklet No. 444. It's FREE.

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Bldg., New York 17, N.Y.

Republic REPUBLIC STEEL

ENDURO STAINLESS STEEL

Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing

WORTH WHILE THINGS ENDURE . . .

Long after time and weather have erased the features of their sculptured faces, the words and deeds of these great presidents will endure sharp and clear in the hearts of all free men.

Through three decades, Aberfoyle Yarns have been earning . . . and zealously guarding . . . the reputation for high quality and honest value.

NATURAL, BLEACHED, DYED AND MERCERIZED YARNS

Made of Durene multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT ---more absorbent
EXTRA STRENGTH ---longer wear
EXTRA QUALITY ---lasting lustre
EXTRA SERVICE ---easy to wash
* Reg. U.S. Pat. Off. ©1944

MADE OF Wearwist YARN MERCERIZED COTTON

NEOPHIL

Neophil, the Nylon Seaming and Looping Thread for Nylon Full-Fashioned Hosiery, made by the Premier Thread Co., Pawtucket, R.I.

ESTABLISHED 1883
aberfoyle
AMERICA'S OLDEST MERCERIZERS
Durene *
*Reg. U. S. Pat. Off.

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street, Philadelphia, 9, Pa.

—and in the South
ABERFOYLE MANUFACTURING COMPANY
Belmont, North Carolina

Representatives in principal textile centers of the world

Backyard Ocean

. . . a foot deep

Another interesting application of Geon polyvinyl materials

THIS "ocean" is constructed from an unsupported sheet of plastic material made from Geon polyvinyl resins. This plastic offers a combination of properties which could hardly be obtained from any other material. It's waterproof and mildew-proof—and it's smooth, flexible, tough, and long-lasting.

Such qualities make the Geon materials equally suitable for wire insulation or clothesline or upholstery. In fact, no one has yet been able to predict how many practical, money-saving, quality-improving or cost-cutting things Geon can do. This we know: Just as it adds to children's fun and safety in the back yard it can create new benefits to consumers and new markets for manufacturers.

How can you use Geon? It can be extruded, pressure or injection molded, used as a coating for paper or textiles, calendered or cast into sheets or film.

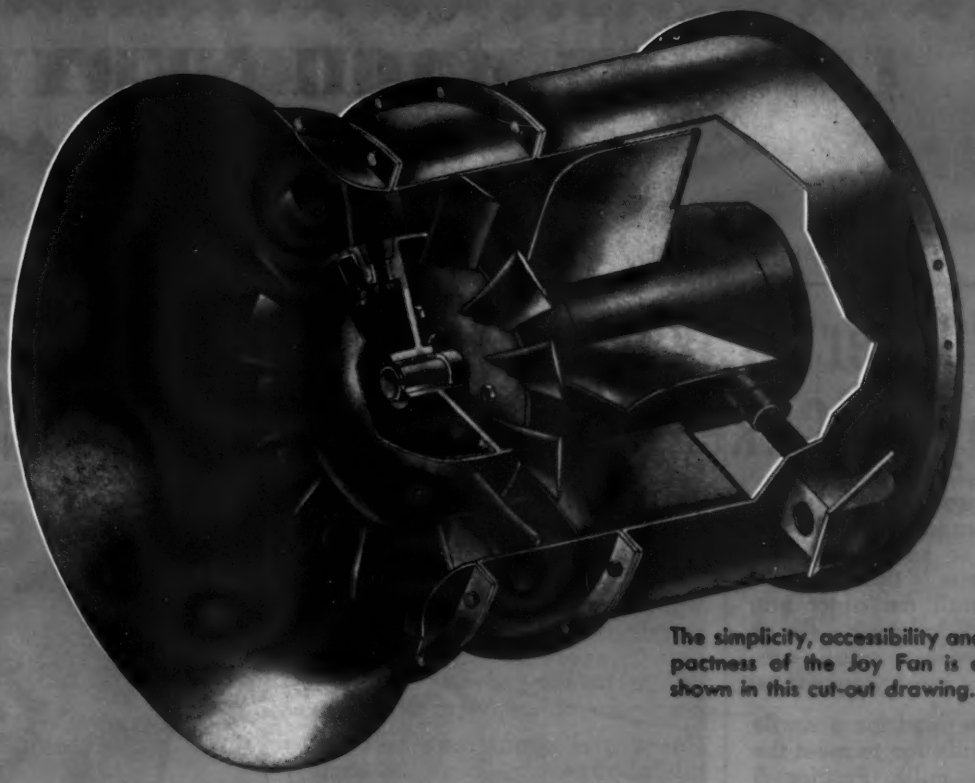
We make no finished products from GEON—or from any of our other raw materials. However, we will be glad to work with you on any special problems of application. We are particularly interested in developing new end uses for these materials. For more information please write Department **M-1,** B. F. Goodrich Chemical Company, Rose Bldg., Cleveland 15, Ohio.

Boltaflex Plastic for Kiddie Pond manufactured by Bolta Products Sales, Inc., Lawrence, Mass.

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

GEON polyvinyl materials • HYCAR American rubber • KRISTON thermosetting resins • GOOD-RITE chemicals



The simplicity, accessibility and compactness of the Joy Fan is clearly shown in this cut-out drawing.

"SERIES 1000"
JOY AXIVANE FANS

TROLLER DESIGNED

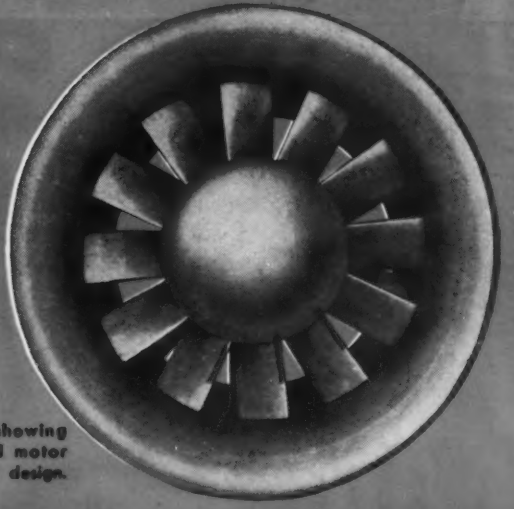
More efficient—lighter—more compact—easily and economically installed.

A very complete line of stock Vaneaxial fans in sizes and capacities to cover practically any industrial need.

Volumes up to 100,000 C.F.M.
Pressures up to 9.6" W. G.
Housing diameters 18" to 60".

Compact—easier to install—efficient—with an exclusive Joy feature, on-the-job adjustable Blades, permitting change of pressures and correction of duct resistance.

Write for Bulletin describing the "Series 1000" line—now ready!



Front view, showing self-enclosed motor and clean-cut design.

Call for a Joy Engineer

JOY MANUFACTURING COMPANY

GENERAL OFFICES: HENRY W. OLIVER BUILDING · PITTSBURGH 22, PA.

TEXTILE MACHINERY and

PUBLISHED BI-MONTHLY FOR TEXTILE MILL EXECUTIVES AND OPERATING PERSONNEL BY PROCTOR & SCHWARTZ, INC.

• F E B R U A R Y • 1 9 4 8 •

Truck Dryer Proves Adaptable for Rayon Cakes and Skeins

Many small throwing mills handling rayon yarn in both cake and skein form have such moderate output requirements that it is not feasible to install an automatic skein yarn dryer for drying skeins and separate semi-automatic tunnel truck dryers for drying cakes.

Recognizing the need for a single equipment installation to meet the needs of these mills, Proctor & Schwartz engineers have found that the standard Proctor truck yarn dryer, with few minor changes, can be installed for handling either cakes or skeins which have been sized and tinted.

These machines may be designed in 500, 1000, and 2000 pound nominal capacity sizes. The capacity of the 1000 pound machine is as follows: When drying 48" reel rayon skeins only, following treatment and centrifuging, this machine will handle a capacity of 1000 pounds dry weight rayon skeins per day of 10 hours. This is based, of course, on operation following Proctor specifications.

When drying treated and centrifuged 1 to 1¼ pound pot spun rayon cakes only, the same machine will deliver a capacity of approximately 900 pounds dry weight per day of 24 hours continuous operation. The average drying time for skeins is 2 to 3 hours; for cakes 34 to 35 hours.

Cakes and skeins may be dried interchangeably—or in the same machine when it is designed with space for two or more trucks—for there is a difference in the way the trucks must be loaded for each type of drying.

The first of these machines have been installed and already have a proven record for uniformity of drying, high efficiency, low steam consumption, and low power requirements.

Complete information on the application of these machines to your mill will be sent in answer to your request—which should supply us as much information as possible about your problem, to enable us to answer you most intelligently.

COMPREHENSIVE BOOKLET ON TEXTILE FINISHING EQUIPMENT

A new 16-page booklet "Proctor Equipment for the TEXTILE FINISHER" has recently been published. This booklet contains complete descriptions of seven Proctor dryers and drying systems especially designed for the textile finishing plant. The booklet is interestingly written and informative. Write for your copy today.

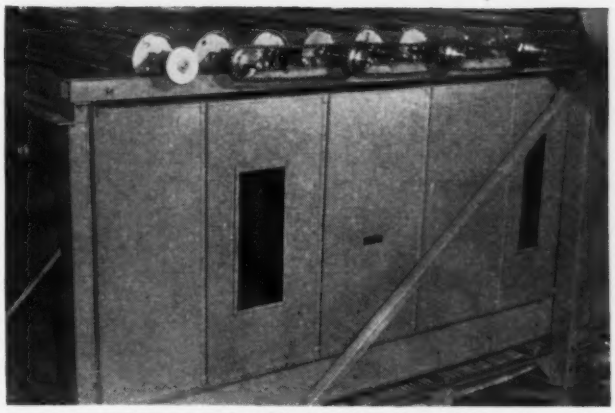
Strong Trend to Metallic Cards

With orders for more than 60 complete new Proctor Metallic Worsted Cards on hand and new orders arriving daily, all indications point to a strong trend throughout the industry to this modern type of carding equipment.

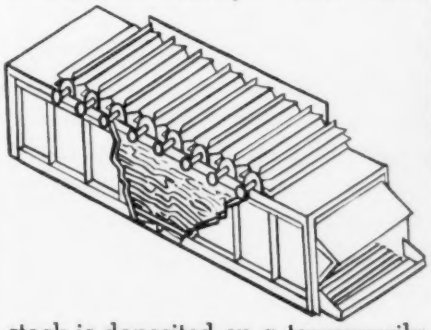
The production record established by these cards—as reported by independent survey figures—proves the value of these cards in the mill. One mill reported output increases of 185% per card. In addition the quality of carded wool was noticeably improved. Write for details on these modern cards.

DRYING EQUIPMENT News

New "Sandwich" Blending Unit Eliminates Inaccuracy of Hand Labor



An entirely new and completely automatic blending unit, developed recently by Proctor engineers, carries automatic blending to the ultimate, completely eliminating the inaccuracy of hand labor. The unit is designed to be used with automatic weighing feeders, which feed various stocks in predetermined amounts to a super picker followed by a ceiling condenser, which in turn deposits the stock on a series of revolving rolls that form the top of the blending unit. When stock reaches the far end of the series of rolls, a timing mechanism reverses every other roll momentarily, creating a series of feed rolls out of what were a series of conveyor rolls. Thus

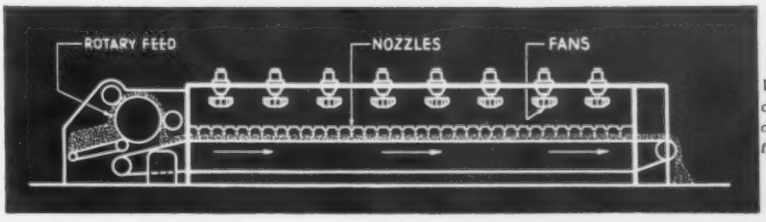


stock is deposited on a temporarily stationary apron on the bottom of the bin. This action is repeated and a sandwich blend is built up. When the bin is full, the apron moves forward toward breakdown rolls with retracting pins which draw out and compress the mass of stock and feed it evenly to a picker for further processing. Not only does better blending result—but actual labor involved is reduced to a new low. The system first developed for wool blends has been found adaptable to use with cottons and synthetics. Write for complete information.

REPRINTS OF CURING ARTICLE AVAILABLE

Reprints of an article on the general subject of "Curing Resin Treated Fabrics" which was written by Geo. W. O'Keeffe, Vice President of Proctor & Schwartz, expressly for the American Wool and Cotton Reporter, are available on request. Mr. O'Keeffe, who has been in close contact with curing developments during the past several years has made this an interesting digest of developments.

"Breathing Action" Design of Impact Dryer Improves Stock Drying



Write for complete details on this system.

Patented features of design of the Proctor impact dryer make possible what has been graphically described as "breathing action". This action is illustrated by the side elevation drawing above. Heated air, at high velocity, is intermittently impinged against the bed of stock, as it is carried through the dryer on a woven wire or perforated metal plate conveyor. As the material is subject to this impingement of air, it compresses and as it passes between one jet of air and the next, it expands in a "breathing" like

action. This permits air to circulate all the way through the bed of material and promotes uniform, rapid, and thorough drying. Installations are proving that this is the ideal system for drying fibrous material.

YOUR CARDS · *Asset or Liability?*

Photo by Ewing Galloway

ARE your cards an asset or liability? That depends on how much and how well they are operating.

Ashworth Card Surveys will help to keep them operating at full capacity by pointing out card clothing needs before quality is impaired. They are made, free of charge, by practical card men, — at regular intervals, if you so desire. All card clothing, chains and bearings are inspected and a written report tells you their condition.

You decide what repairs are necessary and repairs may be scheduled so as to involve a minimum loss of production time and to spread out the cost.

Ashworth has a COMPLETE line of card clothing products to supply your needs. And with 3 factories, 6 repair shops, and 7 distributing points we can give efficient service.

Write us at Fall River and arrange for a survey of your cards.

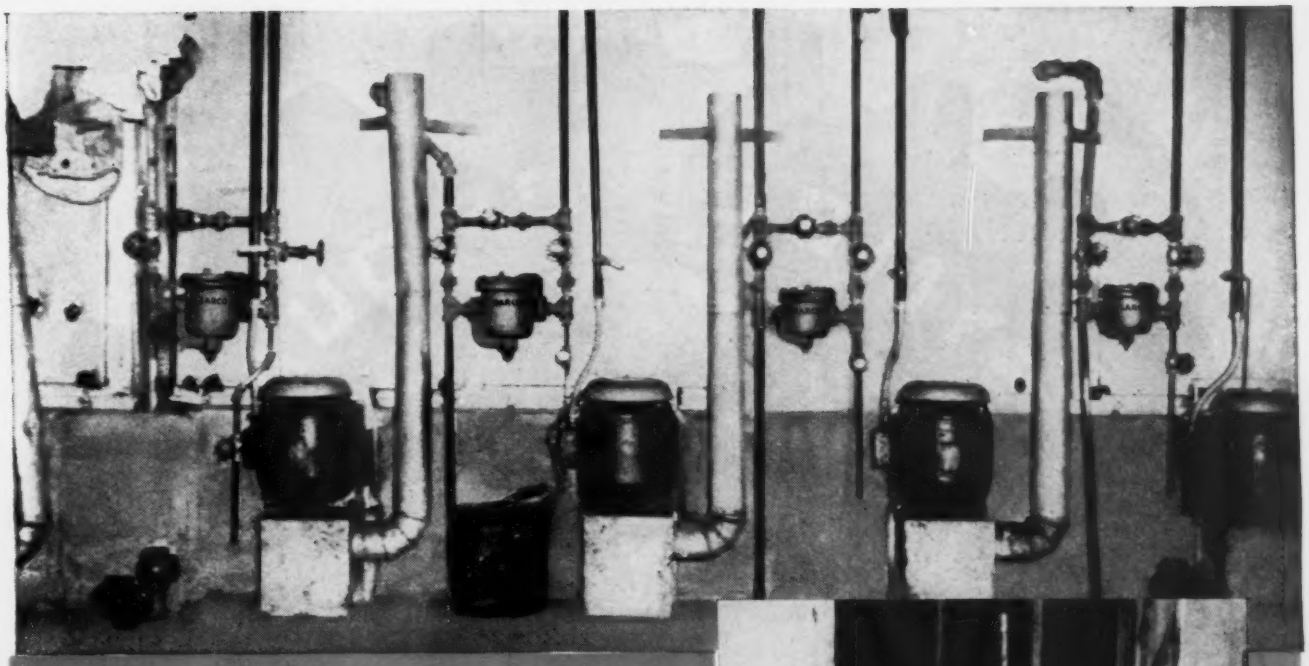
PRODUCTS AND SERVICES

Card Clothing For Cotton, Wool, Worsted, Silk, Rayon And Asbestos Cards And For All Types Of Napping Machinery · Brusher Clothing And Card Clothing For Special Purposes · Lickerin Wire And Garnet Wire · Sole Distributors For Platt's Metallic Wire Lickerins And Top Flats Reclothed

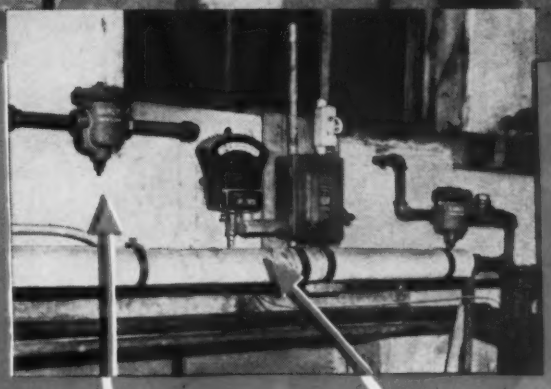
Ashworth PIONEERS IN CARD CLOTHING

ASHWORTH BROS., INC.
AMERICAN CARD CLOTHING CO. (Woolen Div.)
Fall River*†‡ Worcester*‡ Philadelphia*†‡
Atlanta†‡ Greenville†‡ Charlotte†‡
Dallas†‡ (Textile Supply Co.)
*Factory †Repair Shop ‡Distributing Point

3 FACTORIES · · · 6 REPAIR SHOPS · · · 7 DISTRIBUTING POINTS



PRECISION *Dyeing* WITH SARCO

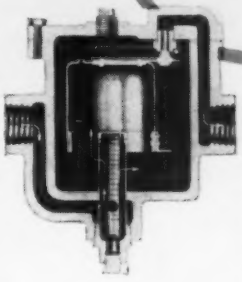


To make a profit in the textile finishing industry the work must keep moving and the colors must come out right. This means temperatures must be kept up in the drying boxes and very exact in the dye jigs, boxes and padder cans.

The top illustration shows how the steam coils in a large dry box are kept hot regardless of the amount of work going through. A Sarco Bucket Trap drains each coil.

At the right is the Sarco LSI Electric Control on the dye cans for the padders. This control is inexpensive and suitable for every step in the dyeing process. It keeps temperatures within a degree of the setting which may be changed instantly as many times as required for a single run of cloth.

Like most Sarco Products, these devices save three ways: in increased production, fewer rejects, and lower fuel cost. They provide flexibility of controlled temperature from rinse to boil-off. They pay for themselves in a few months. The Sarco Representative near you can show you how.



BUCKET

THIS IS THE STEAM TRAP

that can handle large volumes of condensate rapidly and efficiently. Built-in strainer and straight through connections reduce cost of installing. Ask for Catalog No. 350

THIS IS THE CONTROL

that keeps temperature right in the textile, food, chemical and plating industries. Ask for Catalog No. 1025

LSI

192

SARCO SAVES STEAM

SARCO COMPANY, INC.

Represented in Principal Cities

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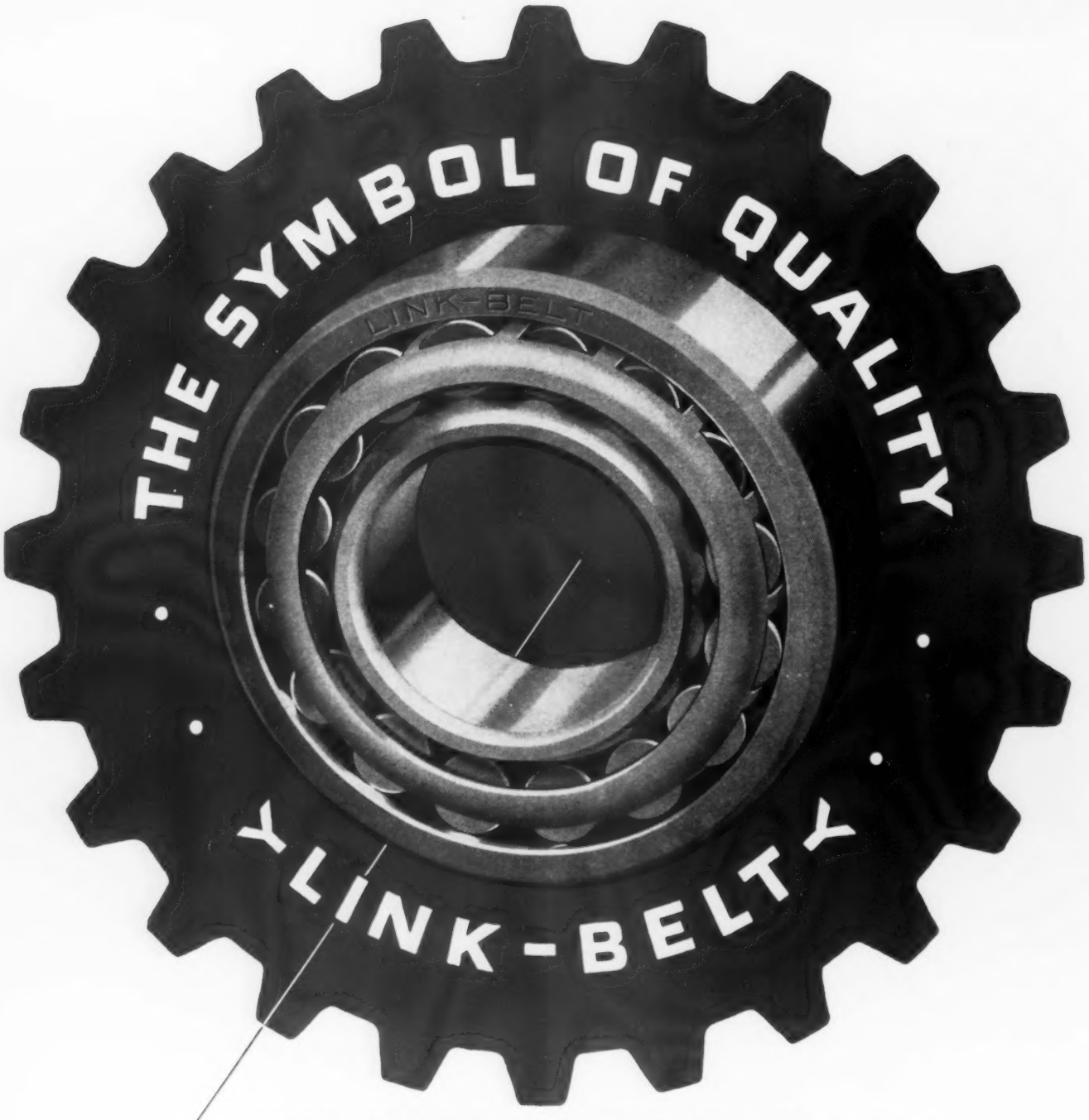


LINK-BELT Ball and Roller Bearings

The Link-Belt Line of Self-Aligning Ball and Roller Bearings is the *complete* line that meets every requirement of general industrial application. Made for light, medium, heavy and extra heavy duty service in a full range of bore sizes. Available in numerous mounted and unmounted designs including Solid and Split Pillow Blocks, Flange, Hanger, Cartridge and Take-up Units for Ball Bearings, and Split Pillow Blocks utilizing heavy and extra heavy duty Roller Bearings.

Books 2094, 2095 and 2196, describing the full line, sent on request.

LINK-BELT COMPANY

Indianapolis 6, Chicago 9, Philadelphia 40, Pittsburgh 19, Atlanta, Dallas, Cleveland 13, Minneapolis 5, San Francisco 24, Houston 2, Los Angeles 33, Seattle 4, Toronto 8.
Offices, Factory Branch Stores and Distributors in Principal Cities.

10,942

THE BEGINNING OF KNITTING YARN

HAVING VITAMIN • Q • •

When cotton is picked and sent to us . . . from there on in it's OUR Story. Because it is Boger and Crawford that process this cotton into knitting yarn having that all-important feature . . . Vitamin Q, "Quality". The process of insuring this *extra* Quality in our knitting yarn is expensive to us, but from users' reports it is well worth our effort. Knitting yarn is poor without Quality. So, in selecting your yarn, look for Vitamin "Q"—"Quality." Every inch of Boger and Crawford yarn is steeped with Vitamin "Q".

The Quality of Boger and Crawford knitting yarn is guaranteed — the highest tribute we can pay it.
Signed . . . . . .

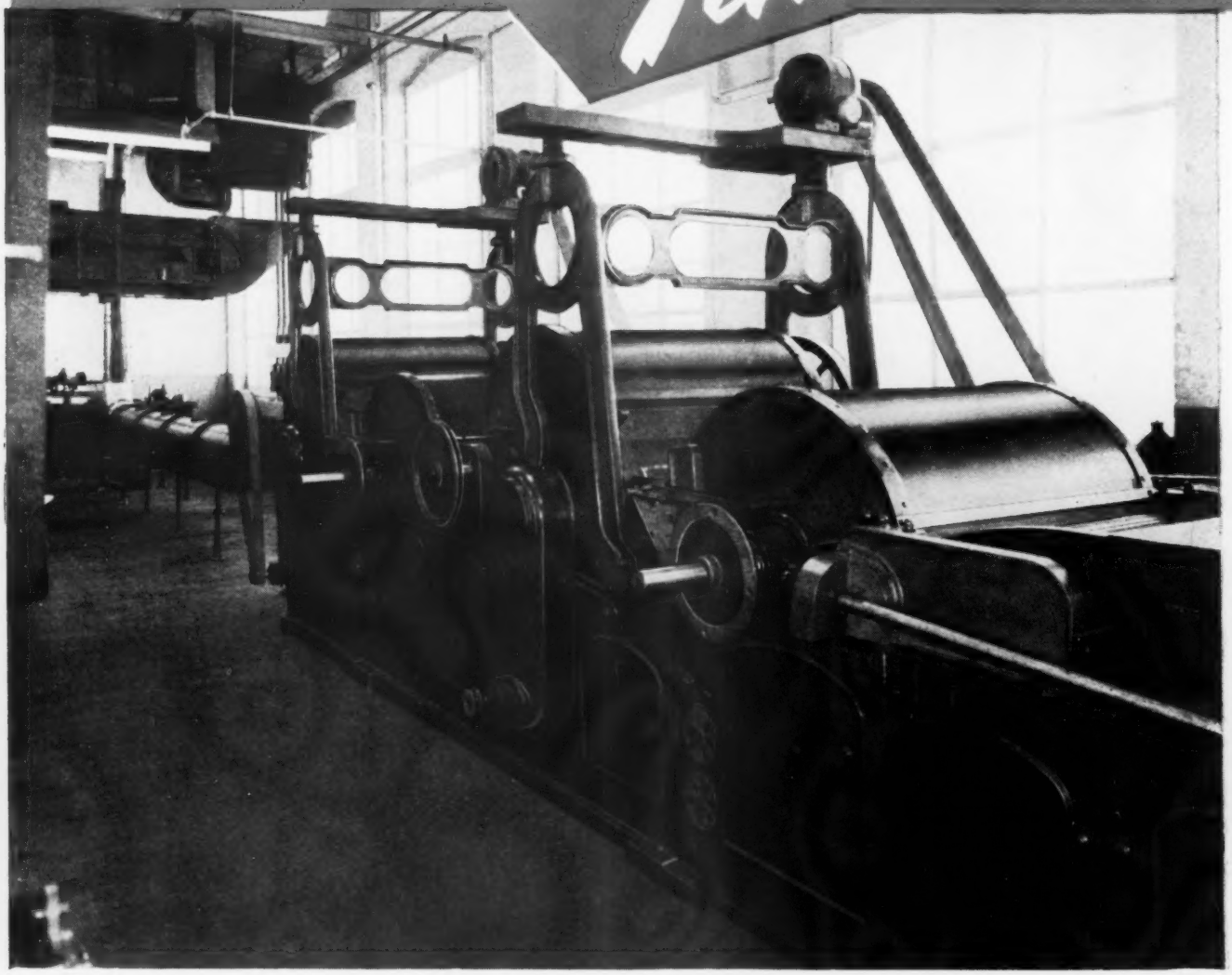
Fredericka Boger

BOGER and CRAWFORD

PHILADELPHIA, PA.

UTICA, N. Y. • BOGER CITY, N. C. • BOSTON, MASS. • CLEVELAND, OHIO

H & B Tandem



The H & B Tandem Opening and Cleaning Unit is an important factor in the quality performance of H & B opening room machinery. Furnished in single, double or triple units (and tandem operation is recommended by our engineers for greater efficiency), this machine is designed to keep a flow of effectively opened and cleaned raw stock moving to the pickers.

• • •

H & B AMERICAN

Builders of Modern

FACTORY, EXECUTIVE OFFICES AND EXPORT

OPENING AND CLEANING UNIT

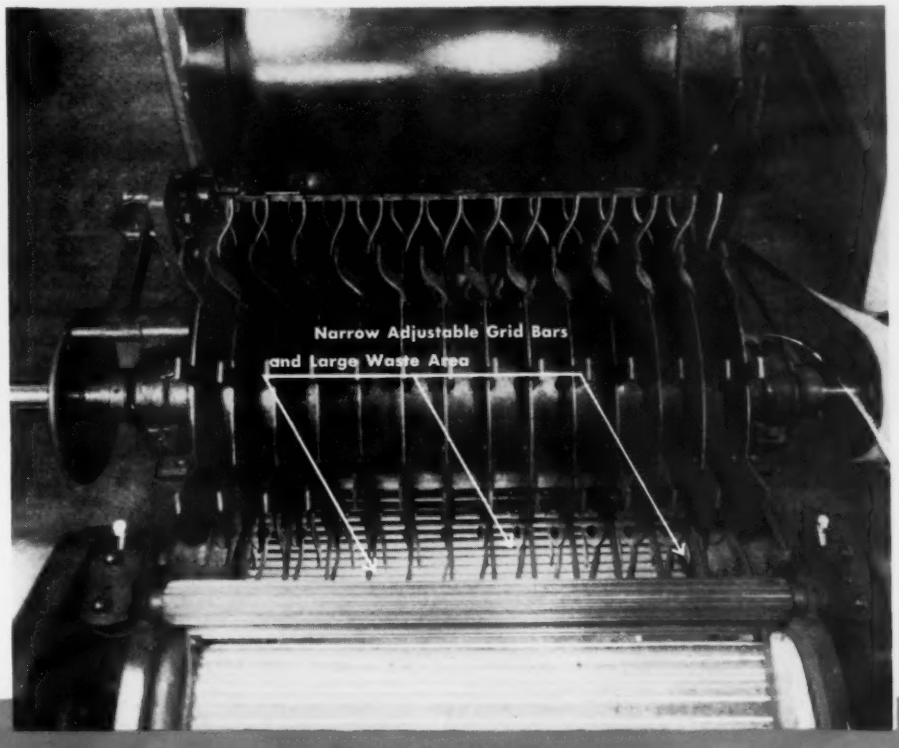
Tandem Operation Recommended

The beater sections are equipped with 30" diameter Buckley beaters mounted on anti-friction ball bearings. These smooth running beaters thoroughly open and clean the cotton. Dirt and leaf are collected in the large waste area under the beaters and the narrow grid bars are adjustable, according to the type cotton being processed. Beater covers and guards are locked while machine is running, for protection of operators.

The cage sections are the lattice delivery type with adjustable air vents for control of cotton on the cages. Steel bladed fans are mounted, like the beaters, on heavy ball bearings for smooth operation.

The correct flow of opened and cleaned cotton to the pickers is maintained by modern feed controls, actuated by the mercury switch on the picker. These controls stop the delivery aprons and feed rolls but allow the beaters to keep rotating. The operation of this clutch type control prevents ineffective beating due to the frequent stopping of the beaters and the consequent lag in gaining full speed again.

Because it does such an effective job of opening and cleaning, the Tandem Opening and Cleaning Unit is truly representative of the achievement of quality at H & B.



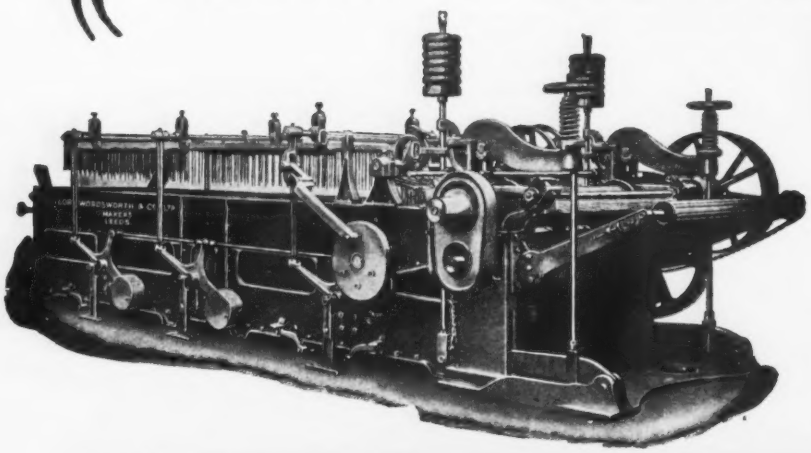
MACHINE CO.

Textile Machinery

DIVISION PAWTUCKET, RHODE ISLAND, U. S. A.

BRANCH OFFICES
ATLANTA, GA.
815 CITIZENS AND SOUTHERN NATIONAL BANK BUILDING
CHARLOTTE, N. C.
1201 JOHNSTON BUILDING

for Perfect WOOL WASHING



The LEVIATHAN Wool Washing MACHINE

This modern Harrow type machine handles the stock gently and with little agitation through every stage. All the controlling mechanism is below the top of the bowls and all the belts are on one side, permitting rapid inspection of the progress of the wool. Settling tanks extend the full length of the bowls, giving maximum area for dirt settling.

Aireflow DRYING MACHINE for Wool, Cotton, Flax, Rags, and any type of similar raw material.

An entirely New Dryer of the single Apron Type with a positive and controlled air circulation. Compact in size, low in steam consumption and upkeep costs. Entirely accessible and clean in operation. No danger of colour mixing with dyed materials.

● *View at Feed end showing "built-in" auto feed and working side of dryer.*

● Before or after Dyeing.

WILLEYS, OPENERS,
WOOLWASHERS,
DRYERS, Etc.

Prince·Smith & Stells Ltd.

INCORPORATING TAYLOR WORDSWORTH & Co LTD

CONCESSIONAIRES FOR ALL WORSTED MACHINERY MANUFACTURED BY PLATT BROTHERS & CO. LTD. ASA LEES & CO. LTD.

KEIGHLEY
ENGLAND

P.S.S./2

Agents, U. S. A. and Canada—English system machinery
Atkinson, Haserick & Co., 211 Congress St., Boston 6, Mass.

Agents, U. S. A.-French system machinery.
The Blake Electrical Mfg. Co., 178 Atlantic Ave., Boston 10, Mass.

Then, as now, COLOR sold textiles

In 18th century Europe, tradesmen offered their wares to madame during her morning toilette. Among the first to be admitted were sellers of colored fabrics from Lyons, Spitalfields and the Far East. Then, as now, color sold textiles.

Franklin Process

LARGEST PACKAGE DYERS IN THE WORLD

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA

New York Representative, 40 Worth St.

INCREASED PRODUCTION
+ECONOMY OF OPERATION
+BETTER QUALITY AT SAME PRICE
+ ? ? ? ? ? ? ? ? ? ? ? ?
= . . . .PROFIT

The Fourth Profit

TEXTILE profits in the foreseeable future will probably come from savings rather than markups. For such profits textile manufacturers ordinarily look to increased production, economy of operation and better quality at the same price.

In view of the present trend toward the intermingling of fibres in various branches of the industry, manufacturers should also look for a FOURTH PROFIT in *flexibility of equipment*. For equipment that is handling one fibre today may be called upon to handle a totally different fibre tomorrow.

The Foster Model 102 Winder is unique in its field because it offers a fourth profit from flexibility and can *still* compete with or surpass other winders (which lack this same flexibility) on the basis of increased production, economy of operation and improved quality of product. Briefly, here is the story: —

FLEXIBILITY — Will handle any count or type staple yarn with same traverse mechanism — any angle of wind from 9° to 18° — any ordinary taper. Can be equipped to wind knitting or warping cones, dye packages, tubes or short traverse cheeses, one type on each side of the machine if desired.

INCREASED PRODUCTION — Doubles production over obsolete models because of high winding speeds (up to 700 y.p.m.) and labor saving devices mentioned under "ECONOMY". 7" traverse cones, if desired.

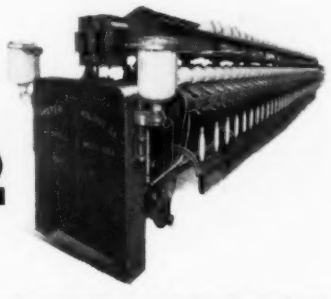
ECONOMY — Reduces operating costs ⅓ under obsolete models because of self threading tension devices, easy doffing, 7" traverse package, if desired, and empty bobbin conveyors which empty into standard sized trucks. Repair costs as low as $3.50 per year per 100 spindle machine.

QUALITY PRODUCT — Automatic inspection. Conditioned yarn. Convex base prevents under-winding and nipping. Ribbon breaker prevents ribbon wind. Uniform density and properly shaped cones. Minimum tension on soft twist yarns prevents excess breakage.

FOSTER MACHINE CO.,
Westfield, Mass., U. S. A.

Southern Office: Johnston Bldg., Charlotte, North Carolina; Canadian Representative: Ross-Whitehead & Co., Ltd., University Tower Bldg., 660 Ste. Catherine Street, West, Montreal, Quebec. European Representative: Muschamp Taylor, Ltd., Manchester, England.

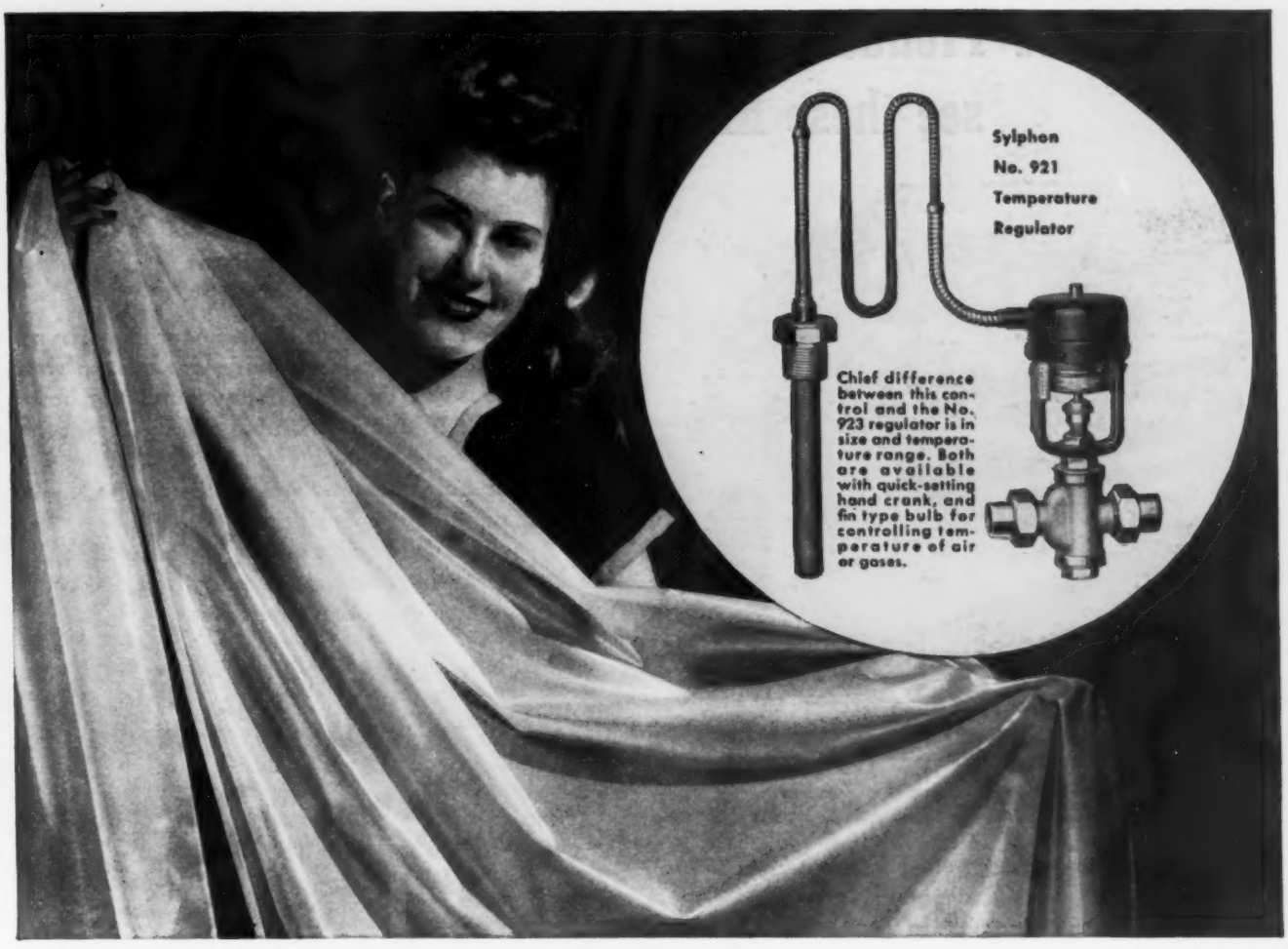
SEND FOR BULLETIN A-95 FOR COMPLETE DATA



FOSTER MODEL 102

THE *Flexible* WINDER

FOR COTTON, MERCERIZED, WOOL, WORSTED, MERINO, SPUN SILK OR SPUN RAYON YARNS


Sylphon
No. 921
Temperature
Regulator
Chief difference between this control and the No. 923 regulator is in size and temperature range. Both are available with quick-setting hand crank, and fin type bulb for controlling temperature of air or gases.

When *she* says it's good . . . you can thank accurate temperature controls

No matter what you manufacture . . . food, chemicals, textiles or other processed products . . . the final judge of quality is the consumer.

When that judgment is favorable, you've not only completed one sale . . . but you've also paved the way for another.

Most manufacturers, in order to insure this repeat business, have replaced rule-of-thumb processing methods with automatic quality controls—such as the Sylphon No. 921 Temperature Regulator shown in the inset photograph above.

This rugged, reliable instrument and its companion regulator, the Sylphon No. 923, are used throughout industry to keep temperatures at exact predetermined levels, save fuel, and protect you against product variations. Compact, self-powered and self-contained, they require little maintenance, rarely have to be serviced.

Catalog CT-20 offers complete details on construction, operation and application.

Write for your copy today.

Temperature Controls • Bellows Devices • Bellows Assemblies

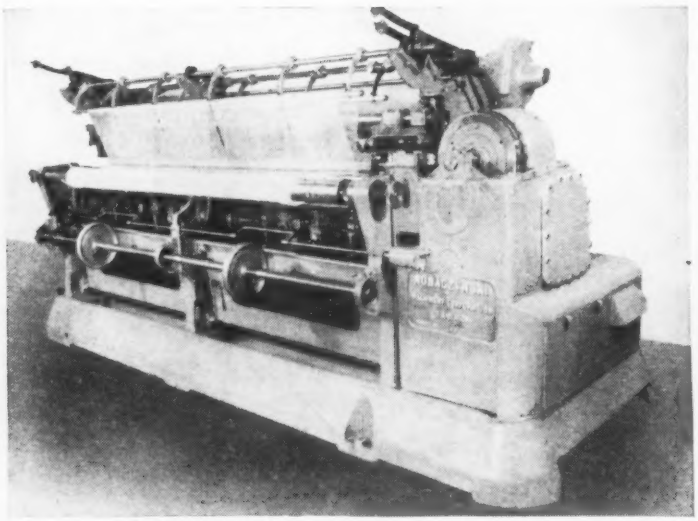
FULTON SYLPHON
DIVISION

FIRST WITH BELLOWS

ROBERTSHAW-FULTON CONTROLS CO., KNOXVILLE 4, TENN.

Canadian Representatives, Darling Brothers, Montreal

To STEP UP Production, IMPROVE Quality, LOWER Costs see these Knitters in Operation



Robaczynski Tricot

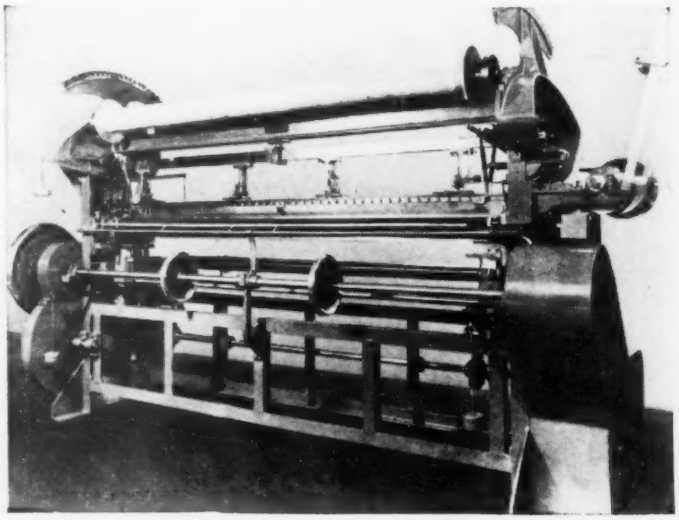
Built in sizes from 90" to 180 inches with warps up to 21" in diameter. Two guide bar system with provisions for a third bar. Heavy foundation base; sensitive tension let off brakes arranged for high range of speed with indicators for adjustments from the front of the machine at the proper height for a man to put up insides.

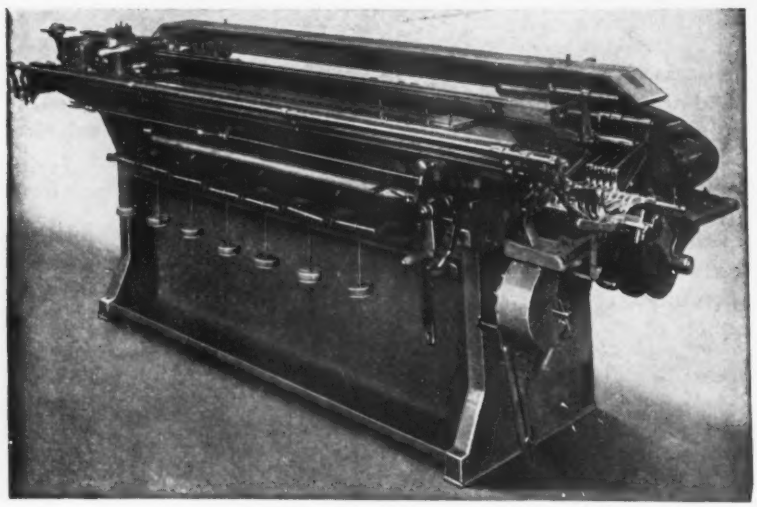
Produces solid colors or striping, as desired, for underwear and outerwear, veiling, hair nets, mosquito netting and other types of fabric.

RASCHEL TYPE WARP KNITTER

A simple, smooth running, steel fabricated machine. Equipped with sand rollers, two needle beds, four guide bars and pattern drum wheel system. Six bars if necessary or less if so desired.

There are so many fabrics you can knit better and cheaper on this Raschel type warp knitter you owe it to yourself to investigate. It handles any yarn from 10 denier up, (worsted yarns from 5 to 50 counts) at speeds up to 250 courses per minute. All types of designs and varieties of colors. Tell us your problems. There's no obligation. Early deliveries are assured.





Purl Stitch or Link Knitting Machine

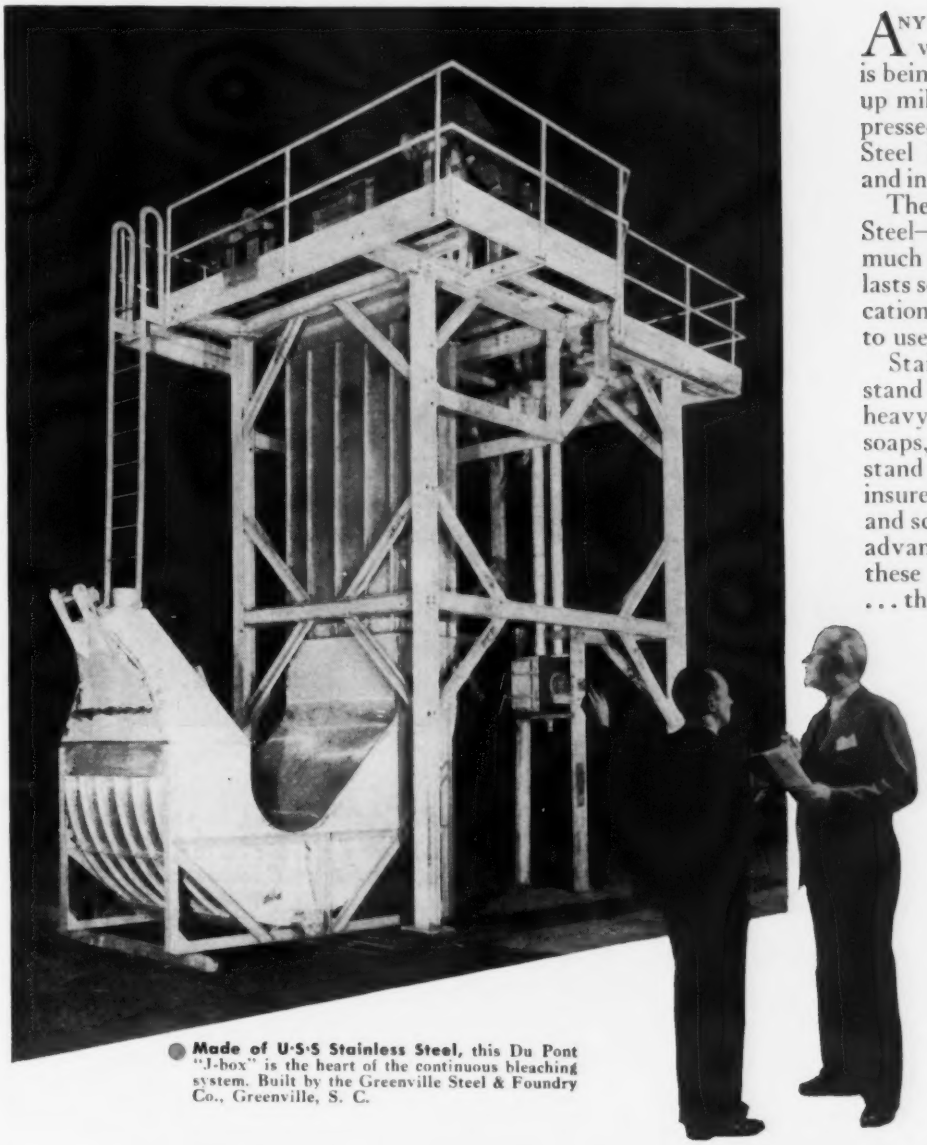
Fabricated steel base to prevent warping and twisting. This machine produces chain stitch, cable stitch, genuine basket weave, open work or flat on flat, purl stitch or link and link — also different colors and designs. It has a double sinker with an improved Jacquard card system and needle bed shifting or racking from one to six needles at a time.

ROBACZYNSKI MACHINE CORPORATION

340 TEN EYCK ST., BROOKLYN 6, N. Y.

In today's high-speed, mechanized equipment designed to produce better textiles, faster . . .

nothing equals Stainless Steel!



Made of U·S·S Stainless Steel, this Du Pont "J-box" is the heart of the continuous bleaching system. Built by the Greenville Steel & Foundry Co., Greenville, S. C.

ANY textile man, reviewing the great variety of fine, new equipment that is being developed to improve and speed-up mill production, cannot fail to be impressed by one striking fact — Stainless Steel is being used in greater amounts and in many more places than ever before.

The reason for this is simple. Stainless Steel—although it costs more—will *do* so much more, will do it so much better and lasts so much longer, that for many applications it is by far the cheapest material to use.

Stainless Steel's superior ability to stand up under the wear and tear of heavy runs—to resist acids, bleaches, soaps, dyes and other chemicals—to withstand abrasion and rough treatment—to insure perfect protection against rusting and scaling, all combine to give it marked advantage over other materials. And these properties are inherent in the steel . . . they cannot wear or chip off with use.

In addition, Stainless Steel's dense, polished surface makes fast, thorough cleaning a simple matter, saves time and eliminates color bleeding and carry-overs. Its permanent smoothness insures freedom from snagging, avoids damage to yarns and delicate fabrics.

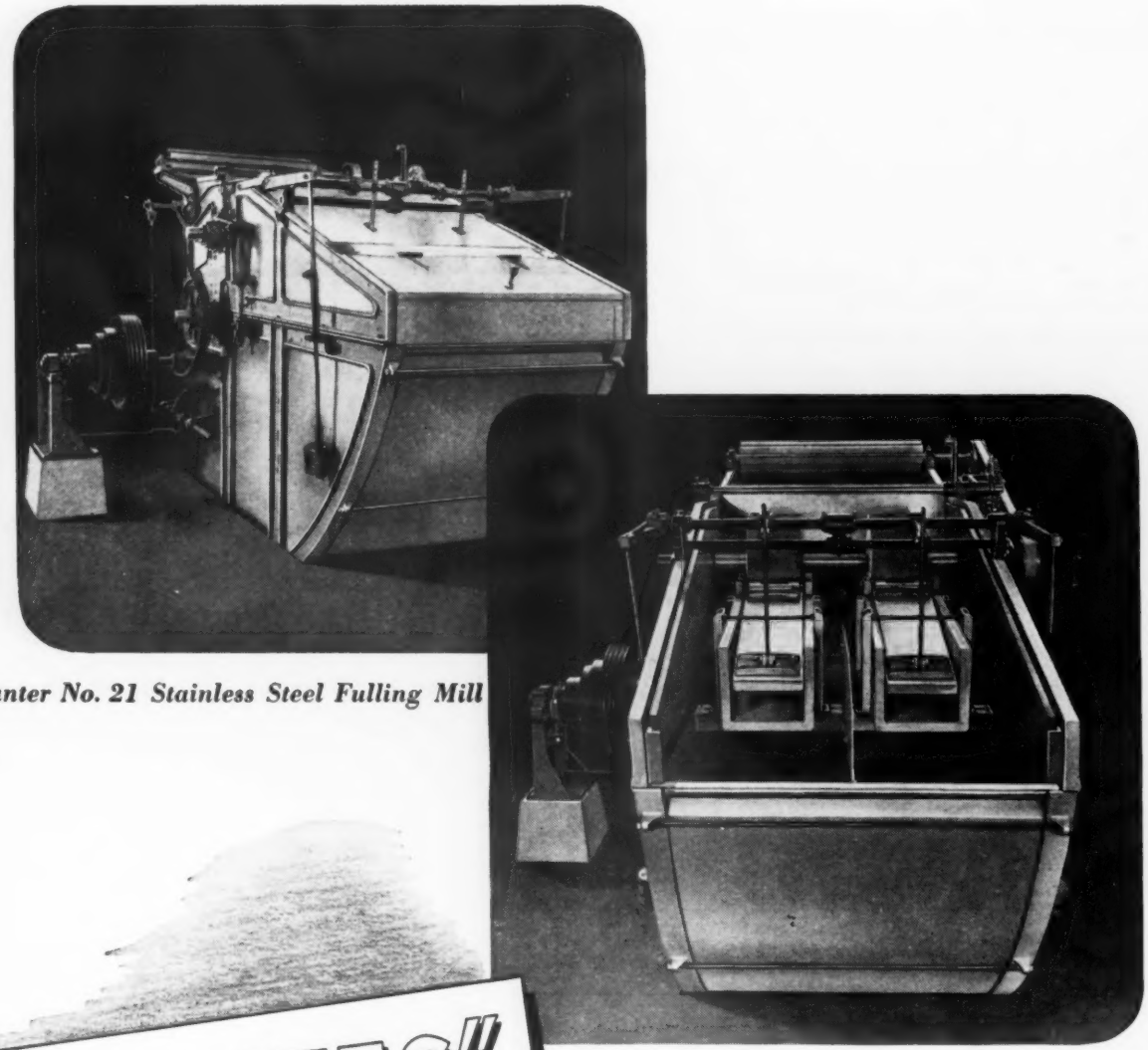
That's why, in their new designs, leading builders of textile mill equipment are putting these advantages of Stainless Steel to work for you wherever possible. They *know* that Stainless more than pays for itself.

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

USS STAINLESS STEEL — UNITED STATES STEEL

UNITED STATES STEEL AMERICAN STEEL & WIRE COMPANY, Cleveland, Chicago & New York
CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh & Chicago · COLUMBIA STEEL COMPANY, San Francisco
NATIONAL TUBE COMPANY, Pittsburgh · TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham
UNITED STATES STEEL SUPPLY COMPANY (Warehouse Distributors), Chicago · UNITED STATES STEEL EXPORT COMPANY, New York



Hunter No. 21 Stainless Steel Fulling Mill

"WHITES"

. . . NEED SPECIAL HANDLING
. . . NEED HUNTER FULLING

Because "whites" need extra care in handling and fulling, need insurance that dirt will not be present in the fulling mill Hunter has designed the No. 21 Stainless Steel Fulling Mill which has clean, gleaming stainless steel at every critical point. The entire body of the mill as well as the doors are fabricated from heavy gauge stainless steel. The sectional rubber rolls are mounted on stainless steel shafts. Crimping boxes, stop motions, soap boxes and unloading roll are all of stainless steel.

Nor have mechanical details been overlooked. Power is supplied through a V-belt drive, all shafting runs in roller bearings, top roll tension is pneumatically controlled and Alemite Zerk lubrication points are provided where necessary.

It will pay you to get full information on these special fulling mills which have been so enthusiastically received.

WRITE FOR FULL INFORMATION

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS.

Founded *1847*

5 ADVANTAGES

OF MODERN, HUNTER STAINLESS STEEL KETTLE

FOR PIECE DYEING & BLEACHING

The unique design and many refinements of the Hunter Stainless Steel Piece Dye Kettle make it the last word in modern, totally enclosed dyeing and bleaching equipment. It is unusually flexible, easy and economical in operation and, because of its rugged construction, it will give years and years of service. It will pay you to study the five advantages listed below, if you are planning to replace or expand your present dye house unit.

WRITE FOR FULL INFORMATION

1. Rigid construction: all driving and driven members supported in newly designed separate frames.

2. Three-speed drive for main reel for increased flexibility.

3. A size and type for any piece dyeing or bleaching requirements.

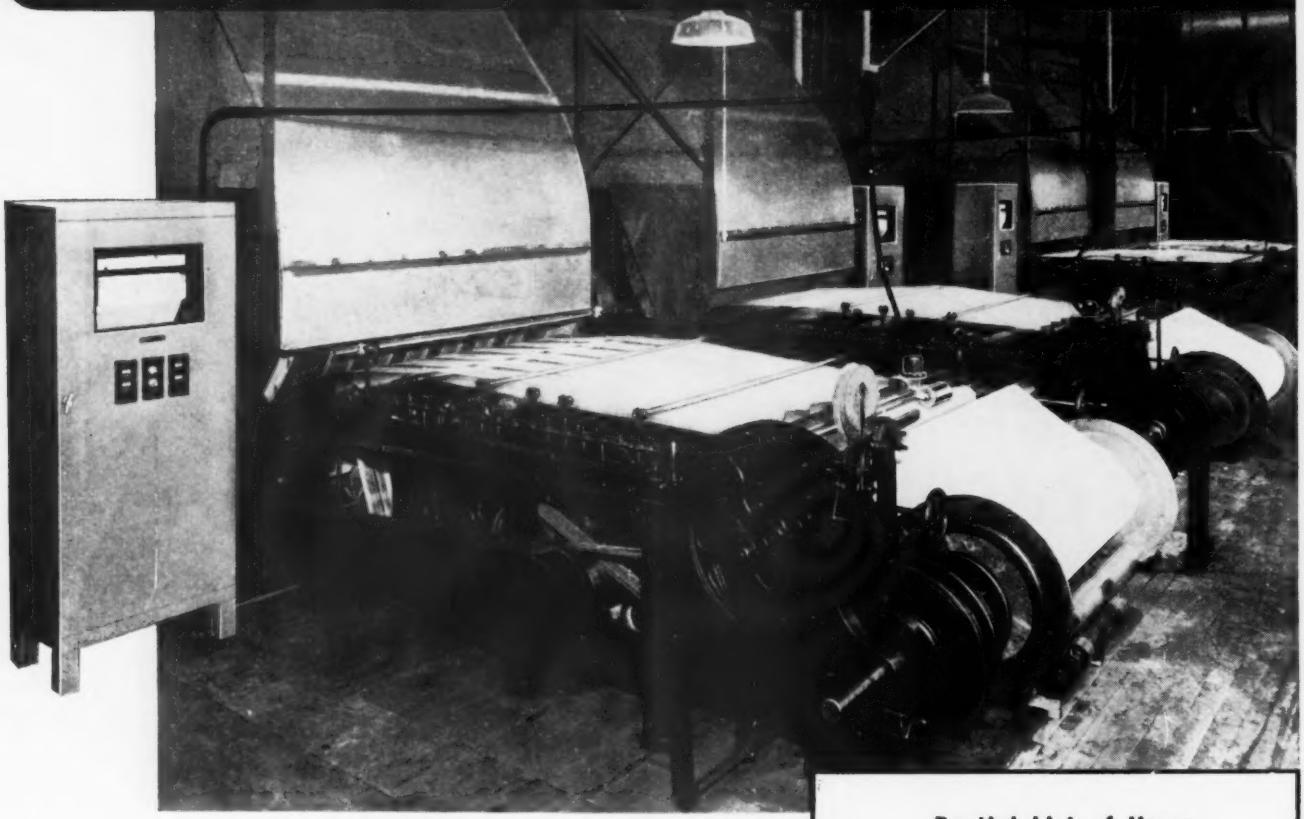
4. A tight top enclosure, which is windowed and lighted, saves up to 35% of steam for the dyeing cycle. Entire Kettle may be insulated if required.

5. Proved performance on fabrics ranging from mohair plushes, woolens, worsteds, unions and blankets to spun rayons, etc.

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS.

{ Founded *1847* }

OVER 400 IN USE TODAY



Performance Counts !

On over 400 cotton and rayon slashers throughout the United States and Canada, superior warps are being delivered to the weave room because of the Brown Moist-O-Graph Slasher Control System.

The Moist-O-Graph increases slasher and weave room production. It cuts down broken ends because warps are never too *dry*. It eliminates mildew because warps are never too wet.

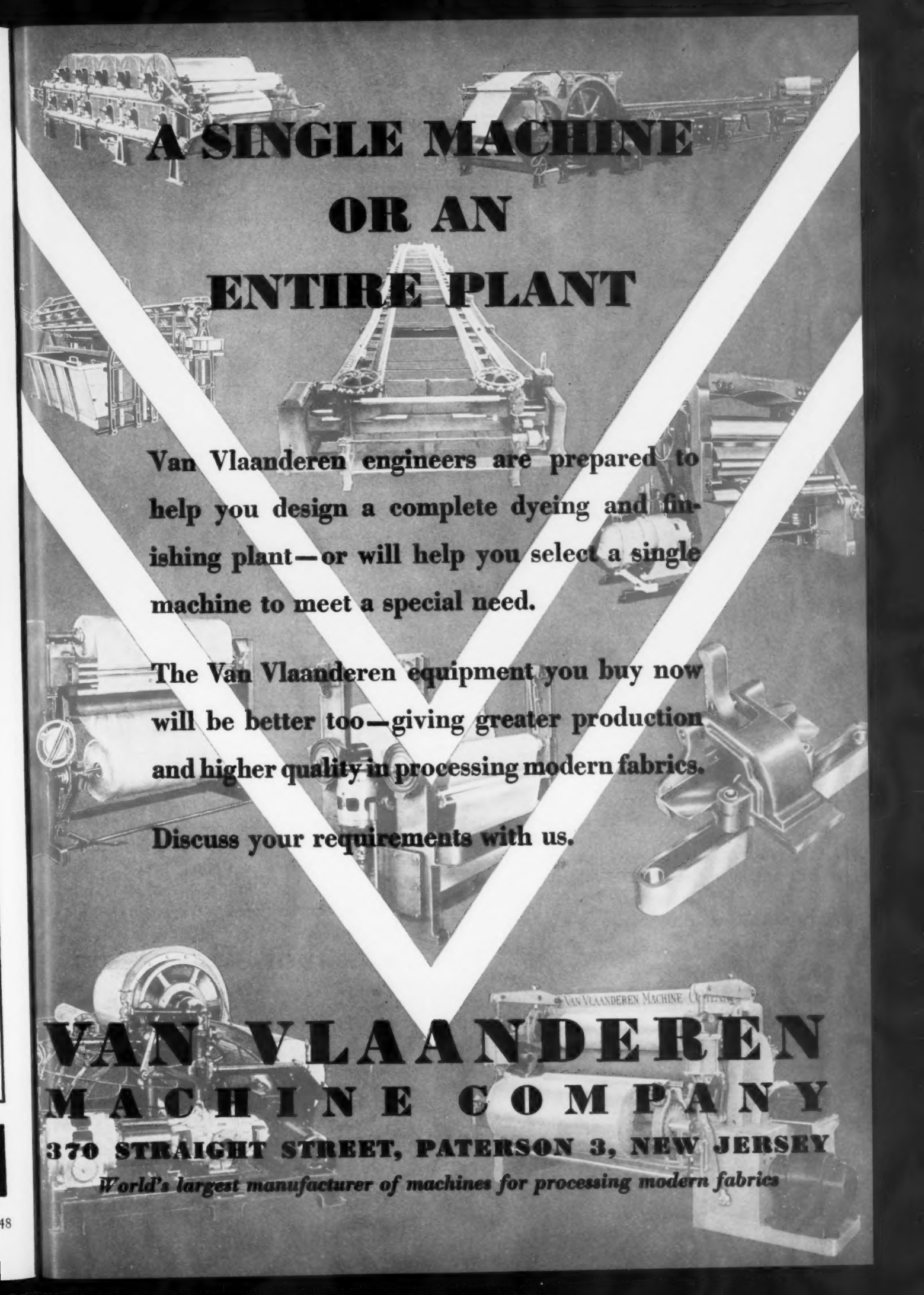
Consider the number of looms in your mill serviced by one slasher, and you will see the multiplying economies over 400 slashers are *now* giving with the Brown Moist-O-Graph. Write for the new Catalog No. 9305 entitled "CONTROL INSTRUMENTS for TEXTILE PROCESSES."

THE BROWN INSTRUMENT CO., 4509 WAYNE AVE., PHILADELPHIA 44, PA.
DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR CO.
Offices in principal cities of the United States, Canada and throughout the world

Partial List of Users

American Enka Corporation
Ashland Corporation
Associated Textiles of Canada
Beaumont Mfg. Company
Bemis Bros. Bag Company
Berkshire Fine Spinning Associates
Bibb Mfg. Company
Brookside Mills
Callaway Mills
Canadian Celanese
Classe Ribbon Works, Inc.
Consolidated Textiles, Ltd.
Continental Mills
Courtaulds, Ltd.
Drayton Mills
Esmond Mills
Graniteville Co.
Henderson Cotton Mills
Millville Mfg. Company
North American Rayon Corp.
Pacific Mills
Pepperell Mfg. Company
Riverside & Dan River Cotton Mills, Inc.
Seminole Mills
Springs Cotton Mills
Swift Mfg. Company
West Point Mfg. Company
York Mfg. Company

BROWN MOIST-O-GRAPH



A SINGLE MACHINE OR AN ENTIRE PLANT

Van Vlaanderen engineers are prepared to help you design a complete dyeing and finishing plant—or will help you select a single machine to meet a special need.

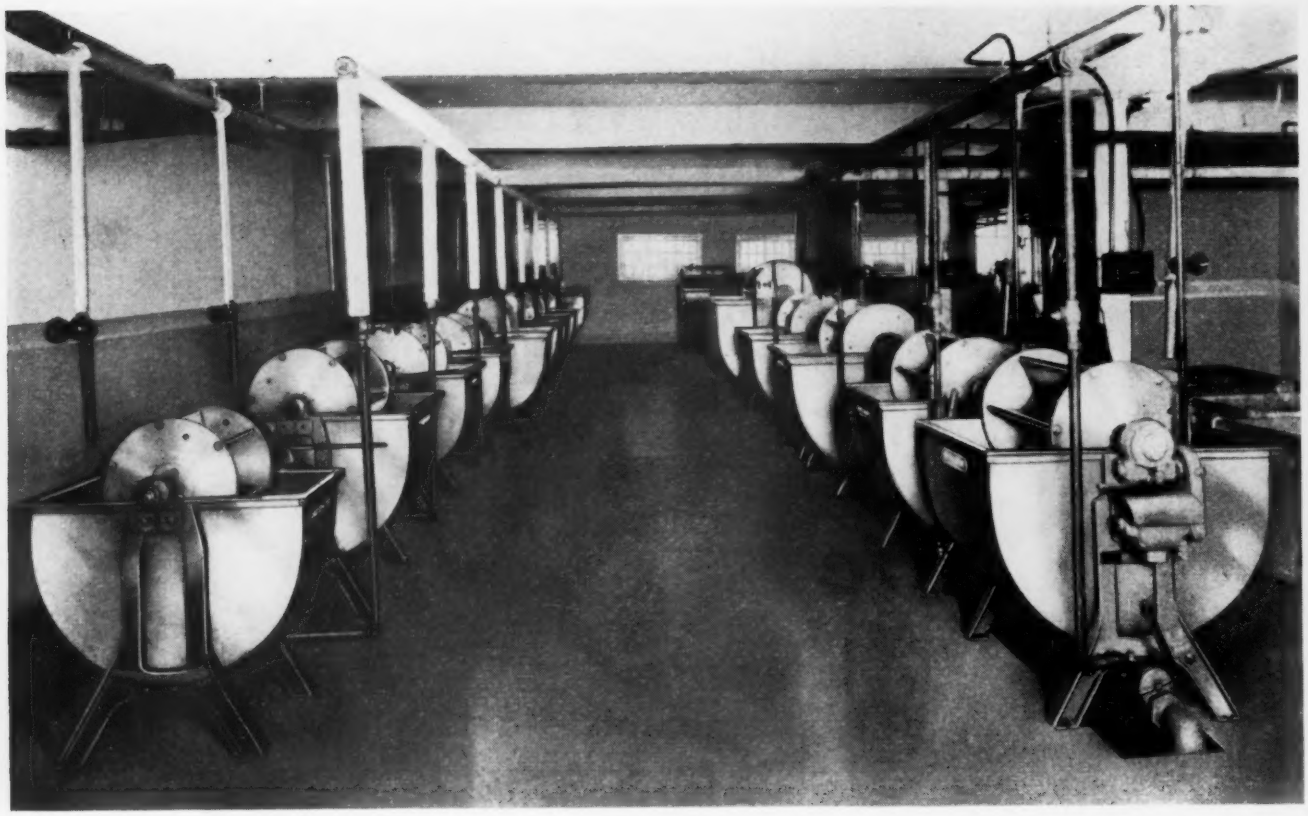
The Van Vlaanderen equipment you buy now will be better too—giving greater production and higher quality in processing modern fabrics.

Discuss your requirements with us.

VAN VLAANDEREN MACHINE COMPANY

370 STRAIGHT STREET, PATERSON 3, NEW JERSEY

World's largest manufacturer of machines for processing modern fabrics



Color forecast: BRIGHT AND CLEAR

thanks to stainless steel

With ARMCO Stainless Steels in your bleaching and dyeing equipment, you can be sure that even delicate colors will stay uniform and true.

The smooth, dense surface of these rustless metals will not absorb dyestuffs. And because they staunchly resist the corrosive attack of processing chemicals, there is no discoloration of yarns and fabrics caused by rusted equipment.

Furthermore, ARMCO Stainless means good-bye to time-consuming boil-outs. A quick rinse with a hose removes all traces of color in the vat, thus permitting quick changes from dark to light shades.

All these advantages, plus the long service life of ARMCO Stainless, add up to increased production efficiency, decreased production costs. For full information, write your equipment fabricator, or address The American Rolling Mill Company, 51 Curtis Street, Middletown, Ohio. Export: The Armco International Corporation.

★ ★ ★

TURN IN YOUR SCRAP NOW—*Help make more steel*

Scrap piles in most steel mills are critically low. Unless this shortage is relieved, everybody must wait longer for steel. You can help. Check your unusable tools, machines and obsolete equipment. Collect all the iron and steel scrap you can find and speed it through regular channels to the mills. Remember—*more scrap means more steel, sooner.*

ARMCO

THE AMERICAN ROLLING MILL COMPANY

• SPECIAL-PURPOSE SHEET STEELS • STAINLESS STEEL SHEETS, STRIP, BARS AND WIRE

In knitting fine hosiery—
every detail demands attention

Look carefully at the Welt

TODAY, with customers paying more and more attention to construction details, the need for quality knitting is increasingly evident.

Good knitting in the welt, for example, is essential in achieving the right strength and elasticity and the correct proportions necessary for fit, comfort and long service. You can depend on Torrington Needles—the precision-made needles—to help you obtain smooth knitting in this detail—and other details that contribute to hosiery quality.

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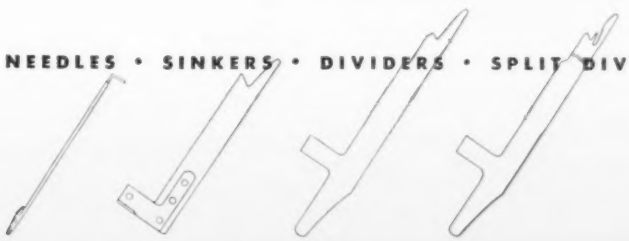
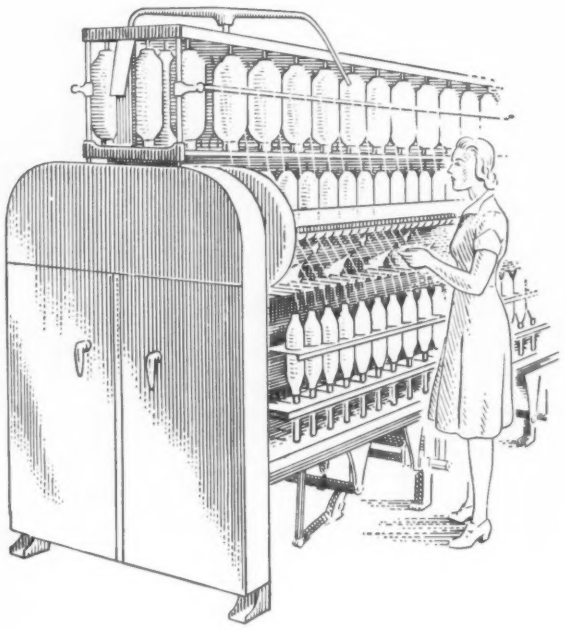
ESTABLISHED 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada. *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California

TORRINGTON

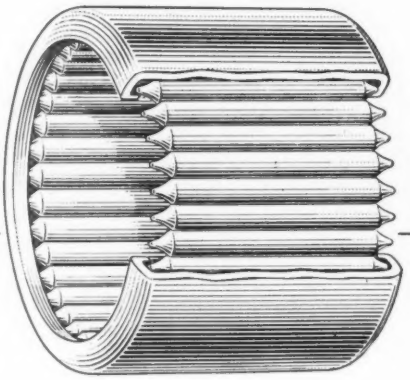
SPRING BEARD NEEDLES • SINKERS • DIVIDERS • SPLIT DIVIDERS





Higher Spindle Speeds and Heavier Packages Handled by Torrington Needle Bearings

The higher speeds and heavier packages handled by Torrington Needle Bearing equipped spindles are typical of the advantages gained by the application of these efficient anti-friction units in a wide range of textile machinery.



. . . compact, easy-to-install Needle Bearings readily applicable to improvement of existing spindle designs.

YOU only *begin* to realize the many advantages of Torrington Needle Bearings in the higher spindle speeds and heavier package loads they make possible. These efficient anti-friction units also save power. Their high radial capacity and simplicity of lubrication mean dependable operation for longer continuous periods. You can measure results in increased efficiency, in lower operating cost, and in reduced service attention.

It will be worth your while to call on the specialized experience of Torrington's engineers to assist you in adapting Needle Bearings to your textile equipment. Call or write the nearest Torrington office.

THE TORRINGTON COMPANY
Torrington, Conn. • South Bend 21, Ind.
District Offices and Distributors in all Principal Cities

TORRINGTON BEARINGS

NEEDLE
SPHERICAL ROLLER
STRAIGHT ROLLER
TAPERED ROLLER
BALL
LOOSE ROLLERS

HYSTER KARRY KRANE

Mobility—Maneuverability—first cost—and low cost of owning and operating make the Hyster Karry Krane the most widely used mobile crane in its class.

Karry Krane rides on pneumatic tires. It can go anywhere over any road surface; can get into and work in small areas. Karry Krane is an ideal machine for loading and unloading gondolas, flat cars or automobile vans; for warehouse and dock work; for moving heavy or bulky materials to or from any part of a plant or storage yard.

Hyster Karry Krane is on a current delivery basis. See your Hyster distributor for a demonstration. Write for literature.

DURABLE MANGANESE SHEAVES
SAFE SELF-LOCKING WORM HOIST POWER TO RAISE OR LOWER
ADJUSTABLE BOOM
MAXIMUM VISIBILITY COMFORTABLE SEAT CONVENTIONAL CONTROLS
WORKING PARTS CENTRALLY LOCATED EASY TO SERVICE
HYDRAULIC BRAKES
BUMPER GUARDS TIRES AND LOAD
SPEEDS TO 10 MPH EITHER DIRECTION
TRUNNION STEERING
SIX PNEUMATIC TIRES

CURRENT DELIVERY on the lowest price 10,000-lb. mobile crane on the market

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Go Lead for Acid Valves

When you want acid valves that will stay on the go . . . *Go National for Lead!*

In many process plants, lead has proved that it is *first* choice for making acid valves *last*. National Lead brings you lead's many advantages, engineered into a complete line of valves.

Here are just a few of the types ready to help you fight acid corrosion:

1. "United" Type R Valve. This "many-purpose" valve features a split body and removable seat. As a result, it offers advantages unobtainable with valves whose body and seat are cast integrally.

The split-body construction permits use as either a "Y" or Angle pattern. All you do is reverse the position of the body section as shown in the illustration below. By standardizing on *one* valve with *two* uses you hold your supply stock to a minimum.

Then, too, the removable seat and plug disc can be replaced easily at nominal cost. Finally, seat and plug can be supplied in any alloy or material you specify.

For normal applications the valve is available three standard ways: 1. Lead plug disc and stem integral; 2. Replaceable lead plug disc; 3. Replaceable rubber and plug disc.

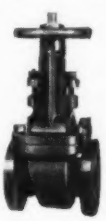
One valve does two jobs! *Reverse the position of the body sections, and the "United" Type R valve is changed from an Angle pattern to a "Y" pattern. Available in hard lead or lead-lined cast iron or cast steel.*

2. "United" Chem-Rayon Valve. The body of this valve is cast hard lead. Fins of the same metal reinforce and greatly increase the strength of body and flanges, while holding weight to a minimum.

The stuffing box is of exceptional depth. Packing can be replaced under pressure. Steel and bronze bonnet are completely covered (except wheel and bushing) with hard lead. Manufactured in both "Y" and Angle design. Available with removable plug discs of rubber or lead.

3. "United" Type C Valve. The important difference between this type and the "United" Chem-Rayon valve lies in the materials used for body and bonnet. In the Type C valve these are made of cast carbon steel or cast iron, heavily lined with lead. The body is cast oversize in order to allow a full flow after lining. All parts of the two valves are interchangeable. Available in both "Y" and Angle patterns.

4. "United" Gate Pattern Valve. Here's a most efficient gate valve, available with body and bonnet in hard lead, lead-lined cast steel or lead-lined cast iron. It is designed to provide full area and unrestricted flow with minimum friction loss. The seat is hard lead, cast integrally with the body lining. This valve can be furnished with disc made of acid-resisting rubber, bakelite or special alloys as required. You get a satisfactory seal at all times.



We also supply check, foot and diaphragm valves in hard lead, cast iron, and cast steel, lead-lined.

Go National for Lead

. . . pipe . . . valves . . . sheet . . . lead-lined or lead-covered equipment . . . even complete acid recovery plants. Behind every National Lead recommendation, every National Lead product, are years of experience and many important installations in every field handling corrosive liquids and gases.

NATIONAL LEAD COMPANY
111 BROADWAY, NEW YORK 6, N. Y.
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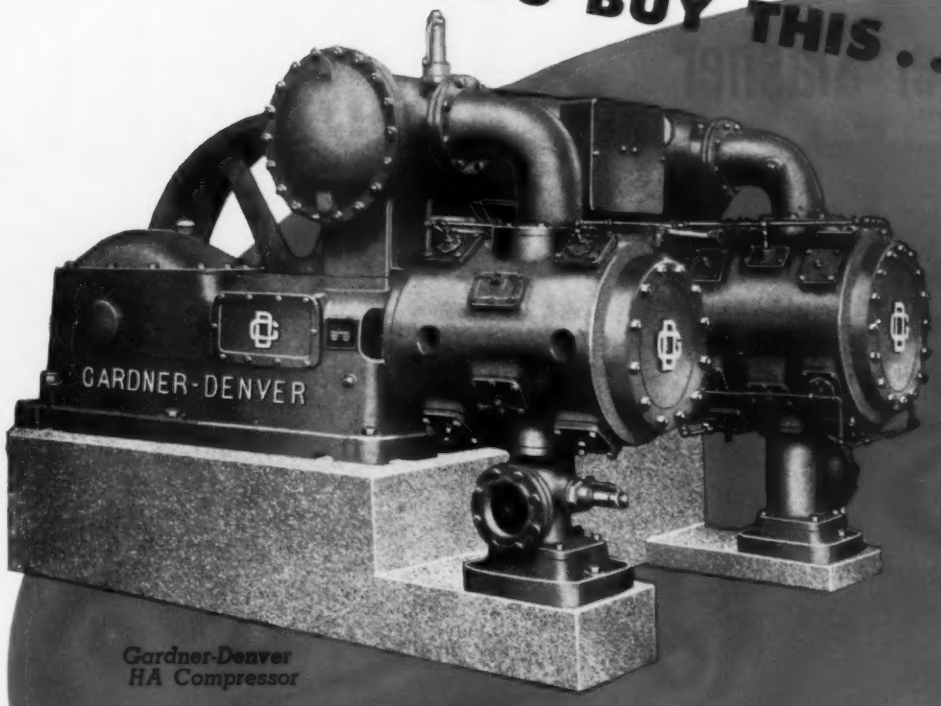
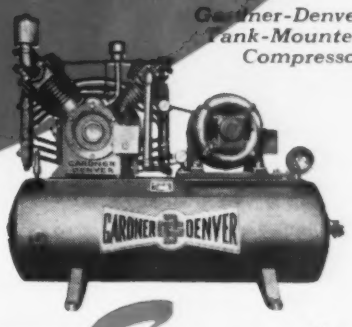


Gardner-Denver HA Compressor

OR THIS . . .



Gardner-Denver Tank-Mounted Compressor

You're Sure of Gardner-Denver *Service!*

Whether you buy the smallest compressor in the Gardner-Denver line—or the biggest—you can be sure of getting experienced, readily available service from Gardner-Denver branches located throughout the country.

For just as Gardner-Denver quality is the same in small products or large—so Gardner-Denver service is a part of every Gardner-Denver sale.

Gardner-Denver field engineers will gladly consult with you on the choice of a compressor for your plant—and will carefully survey your requirements to make certain that the compressor you buy will give you the highest measure of efficiency, without waste. Gardner-Denver branches carry stocks of spare parts which are readily available if your Gardner-Denver compressor should ever need them.

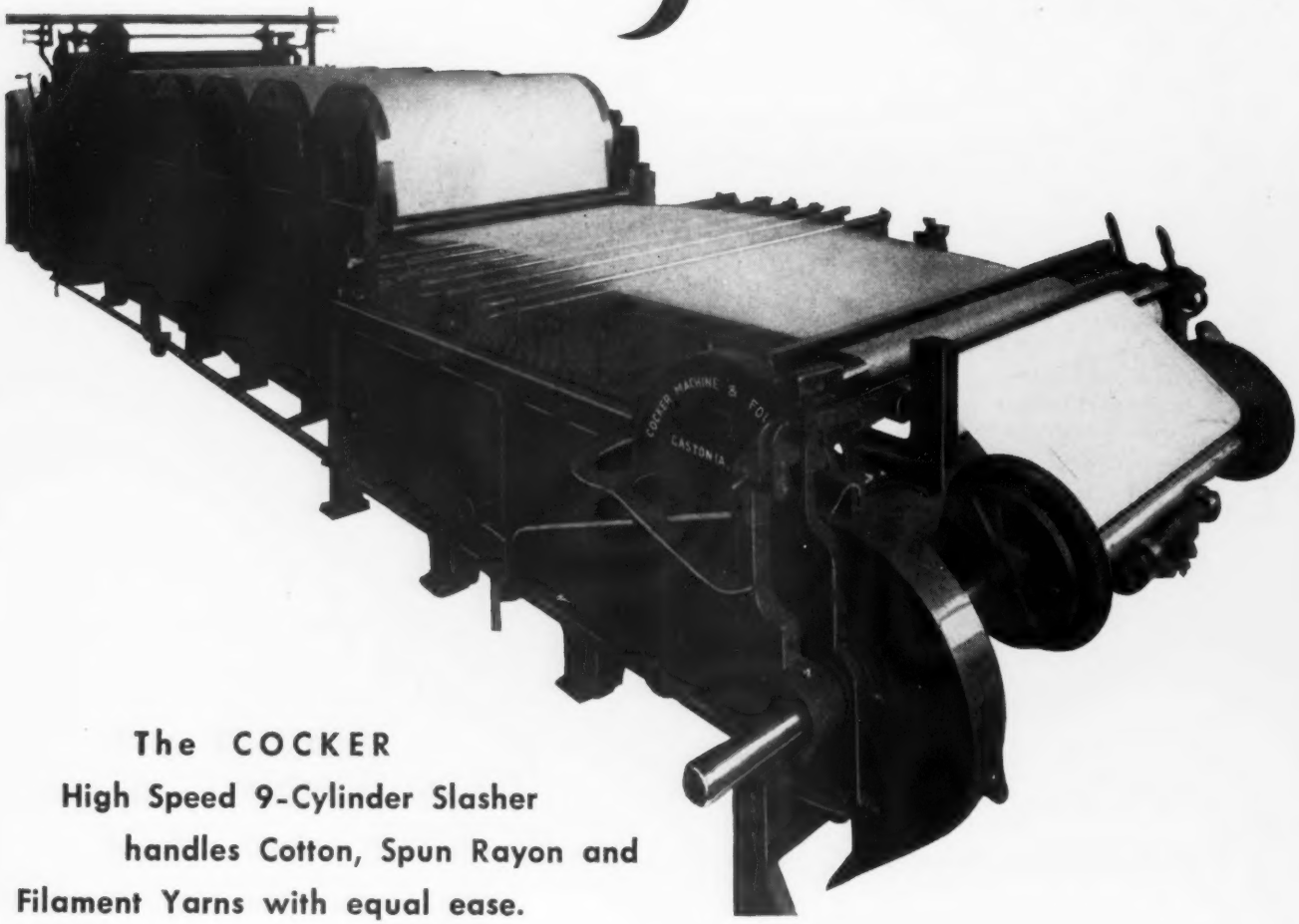
When you buy from Gardner-Denver, you buy more than a product—you buy a continuing interest in your satisfaction.

For complete information, write Gardner-Denver Company, Quincy, Illinois.

GARDNER-DENVER SINCE 1859

ATLANTA, GA.; BIRMINGHAM, ALA.; BOSTON, MASS.;
HAZLETON, PA.; KNOXVILLE, TENN.; WASHINGTON, D. C.;
NEW YORK, N. Y.; PHILADELPHIA, PA.; PITTSBURGH, PA.

The Cocker High Speed 9-Cylinder Slasher Is Versatile



The COCKER
High Speed 9-Cylinder Slasher handles Cotton, Spun Rayon and Filament Yarns with equal ease.

Its high speed, rugged construction and sensitive automatic control increases production and improves quality on all three yarns.

Write or Wire for Complete Information

Cocker Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT

H&D BOXES

CREATED for utility

DESIGNED for merchandising

Here is a versatile corrugated luggage-type box that can be used in the packaging of a wide variety of products. It is a triple use package. First, it adequately protects its contents in shipment. Second, it acts as a powerful sales tool in mass display. Third, it creates impulse sales and suggests "take-with" purchases and requires no additional packing for retail delivery. Such packaging is sound merchandising; it helps make a good product better; it stimulates sales. Consult the H & D Package Laboratory on ALL packaging problems.

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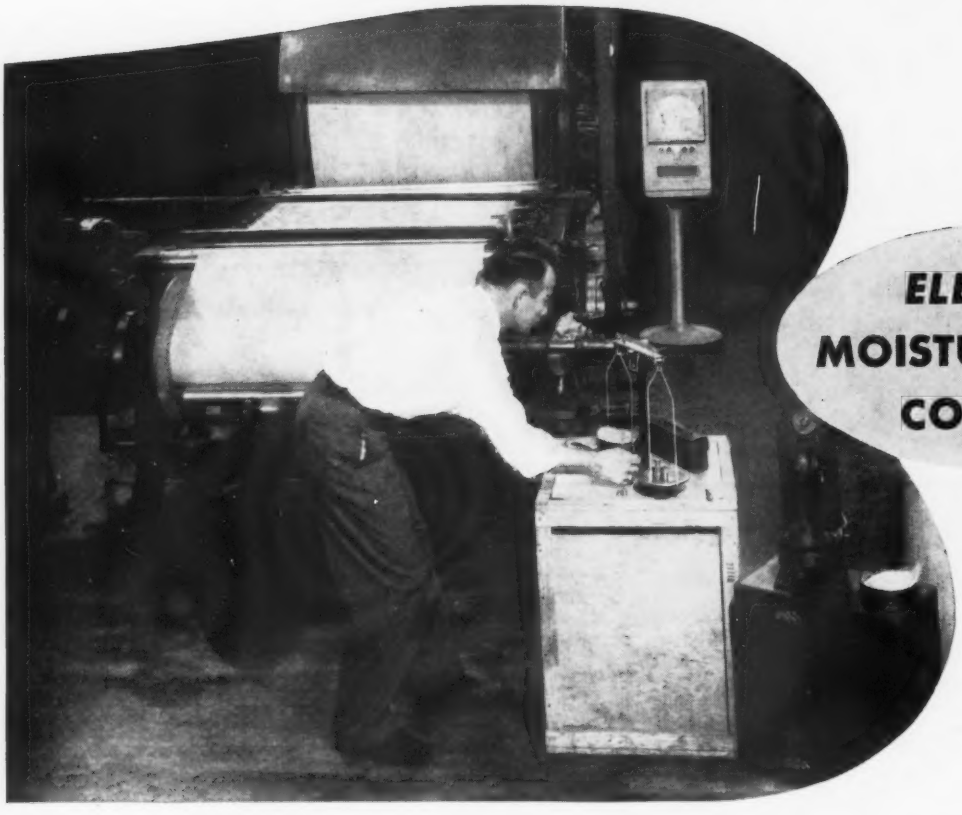
BARBER-COLMAN



ELECTRONIC MOISTURE CONTENT CONTROLLER

SKILLED ENGINEERING SERVICE

PROVIDES FULL ANALYSIS OF SLASHER ROOM PROBLEMS... ACCURATE CALIBRATION OF EQUIPMENT DURING INSTALLATION... TRAINING OF MILL MECHANICS IN OPERATION AND MAINTENANCE

Delivery to your mill of Barber-Colman Moisture Content Control equipment is only one of several steps leading to better operation of your slasher room, and more economical production of more uniform quality goods. Experienced Barber-Colman engineers, at your request and without obligation, will make an initial survey of your slasher room, and discuss with you all of the equipment and its functions. They will also make recommendations leading toward efficient and profitable slasher operation. If this analysis indicates the need of Barber-Colman Moisture Content Control, a Barber-Colman engineer will, upon delivery, supervise the installation and accurately calibrate the Controller to match conditions of your plant and product. The picture above shows one of these men using a portable oven and scales to make an actual moisture content determination for calibration purposes. Finally, at the Barber-Colman branch offices, regular training courses for mill mechanics are offered, at which your men are given detailed instruction in the operation and maintenance of all types of Barber-Colman slasher room control equipment. Barber-Colman provides this program of survey, supervised installation, and employee training because it is the surest way we know to be certain you will get the best results — in the form of lower costs, greater production, and better product.

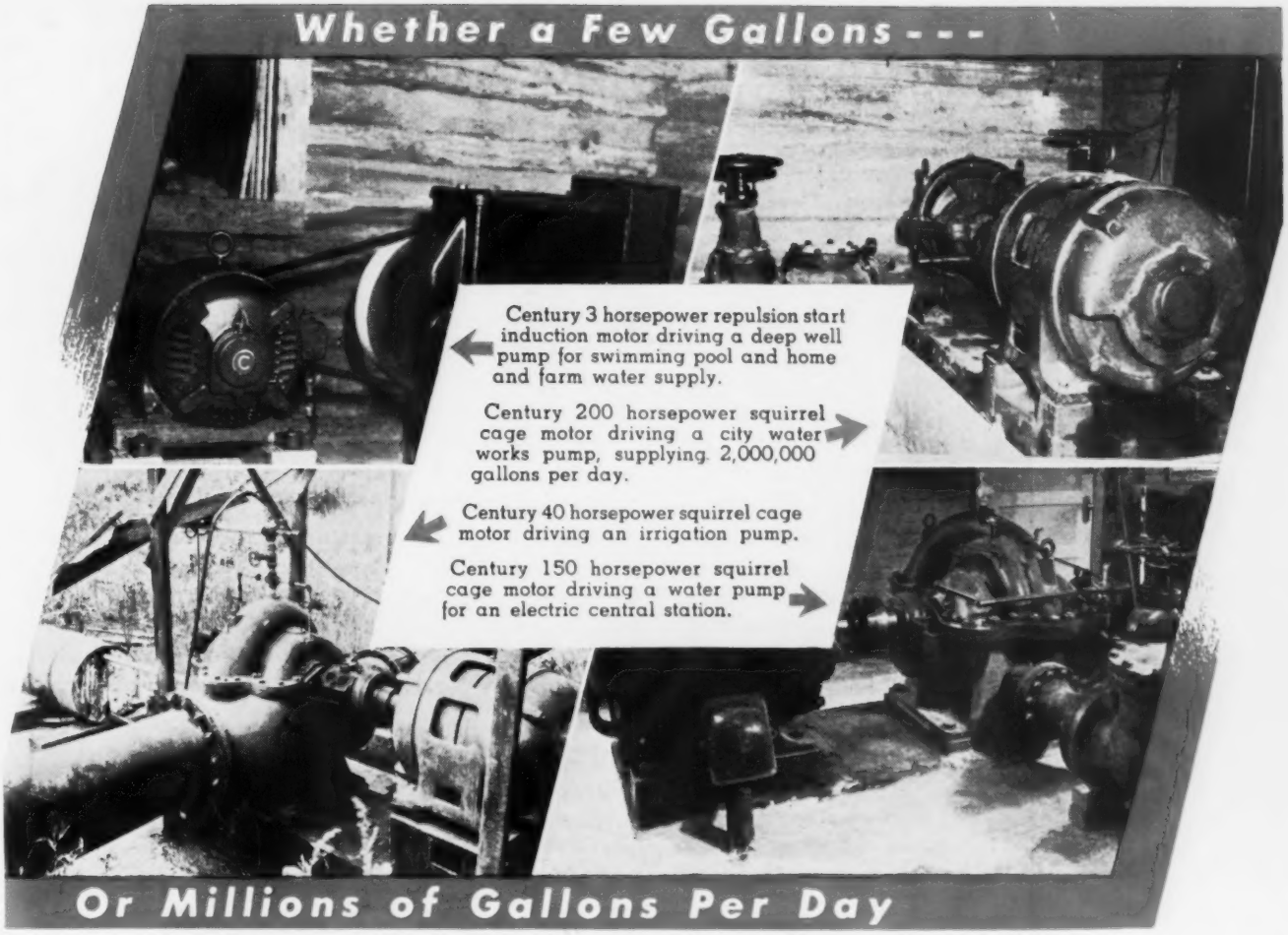
WRITE FOR THIS LITERATURE....

Learn how the MCC — *Electronic* MOISTURE CONTENT CONTROLLER — works and what it can do. Get a preview of how it may fit into your operations, before discussing matters in further detail with your Barber-Colman representative. Ask for Bulletin F-3156.

Barber-Colman Company

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS · BOSTON MASSACHUSETTS · GREENVILLE SOUTH CAROLINA · GREENSBORO NORTH CAROLINA


Whether a Few Gallons - - -
Century 3 horsepower repulsion start induction motor driving a deep well pump for swimming pool and home and farm water supply.
Century 200 horsepower squirrel cage motor driving a city water works pump, supplying 2,000,000 gallons per day.
Century 40 horsepower squirrel cage motor driving an irrigation pump.
Century 150 horsepower squirrel cage motor driving a water pump for an electric central station.
Or Millions of Gallons Per Day

CENTURY MOTORS
Supply *Dependable Power*

Over a million Century motor driven pump installations in use is proof of Century's acceptance in the pumping field. These installations range in size from water systems for small cottages to city water systems pumping millions of gallons per day.

In addition to water pumps, Century motors supply power for milk, liquid food and beverage pumps, brine pumps, bilge pumps, pulp pumps, dye pumps, acid pumps, alkali pumps, oil well pumps, and gasoline pumps.

Century pump motors are particularly adapted to the requirements of pumping service. They start and run smoothly and quietly—and with a minimum of vibration. Century's triple insulation effectively resists humidity and dampness.

To meet the requirements of any surrounding atmosphere, Century motors are supplied with drip proof, splash proof, totally enclosed fan cooled or explosion proof frames.

Century builds a complete line of fractional and integral horsepower electric motors in the popular sizes to meet the requirements of industrial production, commercial and appliance needs.

Specify Century for all your electric power requirements.

Century C MOTORS

CENTURY ELECTRIC CO., 1806 Pine Street, St. Louis 3, Mo.

Offices and Stock Points in Principal Cities

561

Why settle for less than Super-Clean Air?

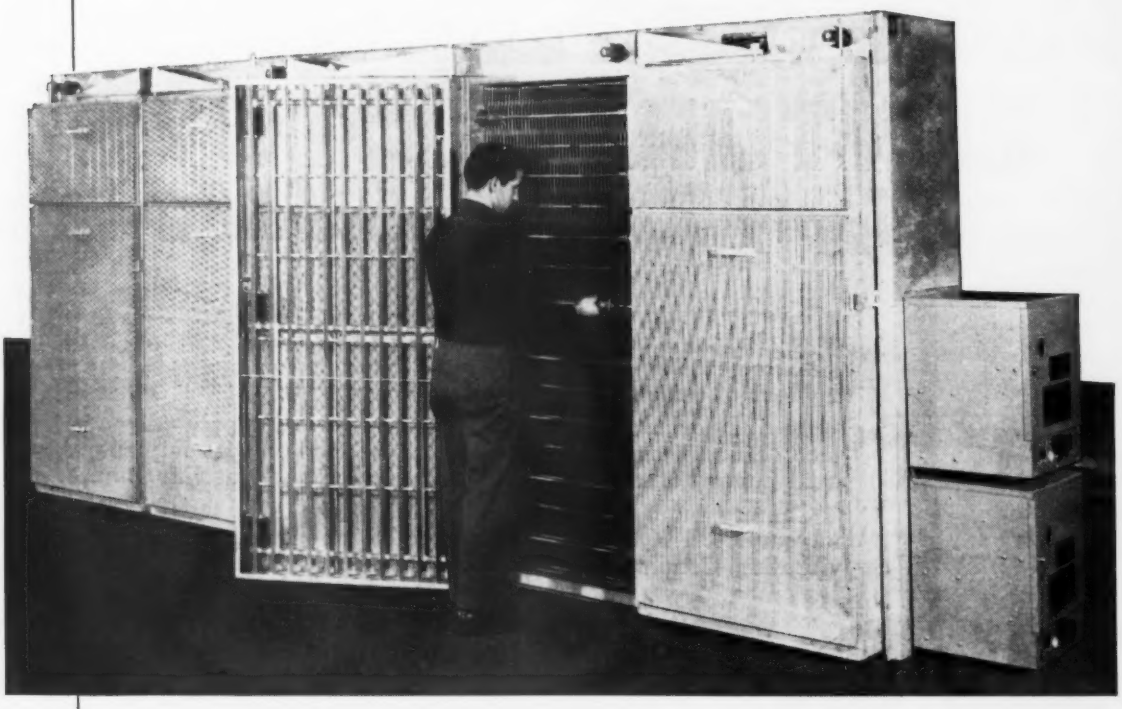
Electro-Cell Electronic Precipitator Offers Highest Efficiency—Requires Minimum Maintenance

IF dust, soot and smoke are a threat to the quality of your products, anything short of super-clean air will cost you money in the form of rejects and seconds. That's why mills who refuse to leave anything to chance choose the AAF Electro-Cell filter.

This modern electronic precipitator not only removes dust and soot from the air but also smoke and dust particles of fractional micron sizes. Where continuous operation is desired, filter can be supplied which provides for automatic cleaning of the collector plates without interruption of service. However, these collector plates are so designed that they may be removed for servicing in a special cleaning tank or washed and re-oiled in place by manual methods. Other features such as sectional construction and full height hinged ionizers make for simplified installation and greater safety.

Information on the Electro-Cell Electronic Precipitator is contained in Bulletin No. 252. It's free for the asking as are the services of AAF application engineers to aid you with your air filtering problems. Just call your local AAF representative or write direct to—

American Air Filter Company, Inc.
304 Central Avenue, Louisville 8, Ky.
In Canada: Darling Bros. Ltd., Montreal, P. Q.



®AAF
AIR FILTERS
AND DUST CONTROL EQUIPMENT

NAPHTOLS

FAST COLOR SALTS AND BASES

BRILLIANT SHADES OF RED • SCARLET • ORANGE • YELLOW • GREEN • BLUE • VIOLET • BROWN • BLACK

- EXCELLENT FASTNESS PROPERTIES
- FULL SHADES
- LOW COST
- HIGH YIELD
- FLEXIBILITY
- EASE OF APPLICATION

GENERAL'S NAPHTOLS FOREMOST IN THEIR FIELD FOR COMPLETE COLOR RANGE

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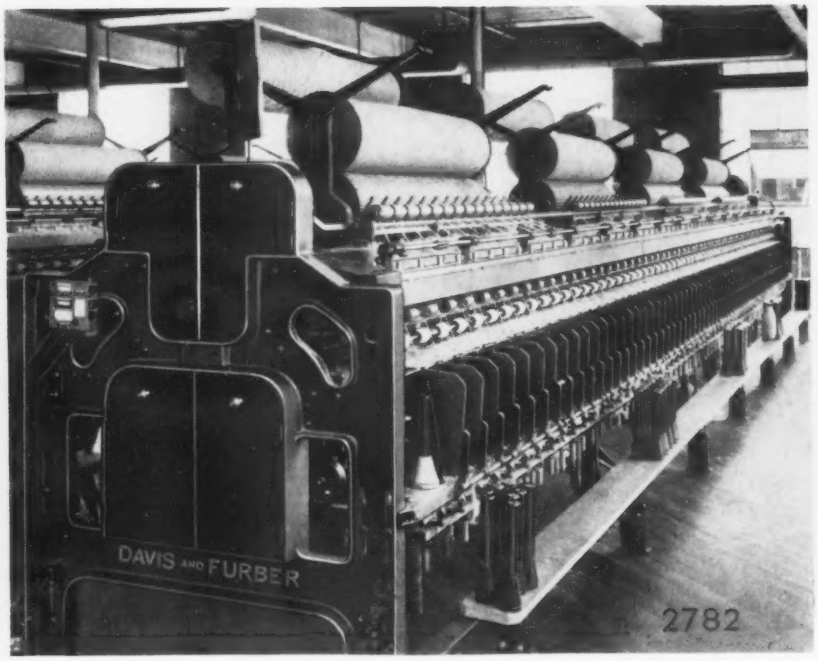
435 HUDSON STREET • NEW YORK 14, N. Y.

BOSTON • PROVIDENCE • PHILADELPHIA • CHICAGO • CHARLOTTE • SAN FRANCISCO

Making the Biggest Bobbins Known on a

SIMPLEX WOOLEN SPINNING FRAME



Wide Gauge Simplex Frame (6½″ Gauge), Spinning 3-Run Yarn for Women's Wear; It Makes the Largest Bobbins Known in Woolen Spinning

The advantages of continuous spinning are brought to all mills using the carded woolen system of yarn production—by this "SIMPLEX" Wool Spinning Frame.

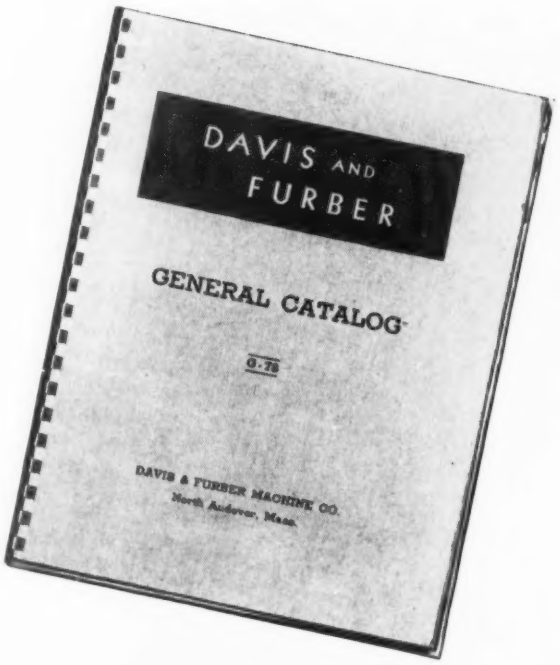
It may be applied to yarn manufacturing in Wool, Cotton Waste, Silk Waste, Linen, Rayon Staple Fiber, Shoddy, Asbestos and a variety of other materials and mixtures that may be handled on woolen yarn machinery.

These machines are built with any number of spindles from 80 to 144, in order to fit the floor space available.

They are simple to operate, to adjust and to change over for different stocks, yarn sizes and twists, as the name SIMPLEX implies.

We will be glad to visit mills, without obligation, to make surveys of your requirements.

For information on the complete line of DAVIS & FURBER equipment for Preparatory work, Carding, Spinning and Yarn Production, and Finishing, write for the Illustrated Catalog shown opposite. (100 pages)



DAVIS & FURBER

NORTH ANDOVER, MASS.

Leaders for More Than a CENTURY of Progress

get MAXIMUM protection with

JESSOP Stainless and Acid Resisting Steels

JESSOP offers you *maximum* protection for your processing equipment, because JESSOP manufactures a *complete* line of stainless and acid resisting steels . . . in all analyses and in all forms for corrosion resisting applications.

JESSOP Stainless and Acid Resisting SHEETS and PLATES are supplied either as solid stainless or as stainless-clad, depending upon your requirements.

JESSOP Stainless-Clad Steel can be furnished with 10 to 50% stainless cladding of closely controlled thickness. JESSOP Stainless and Acid Resisting BARS are supplied hot rolled, cold drawn, centerless ground, forged, or rough turned. They are available in a wide range of sizes for economical fabrication into such parts as pump shafts, valve stems, tubing, and various types of fittings.

JESSOP Stainless and Acid Resisting CASTINGS and FORGINGS are supplied to the customer's design specifications, in most standard analyses. Accurately formed, they greatly reduce machining time and the amount of steel required.

• • •

In addition to all standard analyses of stainless and acid resisting steels, JESSOP also produces Types such as 309S, 309SCb, 316Cb, 317, and 330, which are not generally available. The JESSOP Service Engineers will gladly work with your fabricator to help you make the best use of stainless steel in your equipment.

JESSOP Stainless and Acid Resisting Steels
BARS · TUBE ROUNDS · SHEETS · PLATES
FORGINGS · CASTINGS · SPECIAL SHAPES

JESSOP STEEL COMPANY
WASHINGTON, PENNSYLVANIA
Tailor-made Specialty Steels

Robert Gair

About April 1, 1948, our new
come into production at Port
modern Mill will supply the
fabrication into Corrugated
Nine Gair Box Plants located

FOLDING CARTONS · SHIPPING

Announcement!

Kraft Liner Board Mill will Wentworth, Ga. This high speed tonnage of Liner Board for Shipping Containers by the

at

N. TONAWANDA, N.Y.
SYRACUSE, N.Y.
UTICA, N.Y.
NEW LONDON, CONN.
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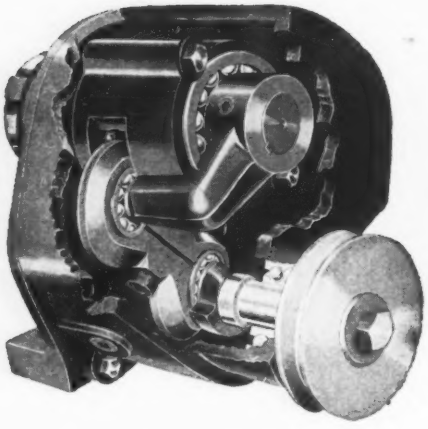
ROBERT GAIR COMPANY, INC.

NEW YORK • • TORONTO

CONTAINERS • PAPERBOARD

WHY BUY FRICTION ?

REPLACE OLD STYLE WORN OUT COMB BOXES WITH



This graphic illustration reveals the efficient design of this Comb Box. Notice that there are no frictional parts . . . that it is sealed to eliminate costly oil leakage. Comb-stock replacement or adjustment is easily accomplished from the exterior of the box.

TYPE C
BALL BEARING COMB BOX

WHY BUY *FRICTION* . . . When it can be virtually eliminated with the installation of this modern Ball Bearing Unit. Constructed throughout with a double row of heavy duty ball bearings, there are no slapping parts to create excess friction, heat, wear—and replacement costs. The result is a noiseless, frictionless, smooth operation, that means savings to you in both time and money.

The Southern States Equipment Corporation Type C, Ball Bearing Comb Box, with adapter base, fits either right or left, on *any* current make of cotton card!

Factory lubricated, and equipped with Victorprene Oil Seals, this outstanding product eliminates frequent and unnecessary oil changes and "down-time." Unlike the old-style box, the Southern States Type C Ball Bearing Comb Box has no working parts to wear out. For little more than the cost of replacing an eccentric and bearing in the present box, a standard set of replacement ball bearings can be inserted—providing an entirely new box!

Send us your order, TODAY, or write for Bulletin TI 100.

Southern States Equipment Corp.
HOME OFFICE AND FACTORY — HAMPTON, GEORGIA

HENDERSON FOUNDRY & MACHINE COMPANY DIVISION
Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

A new thread guide material

ALSIMAG 491

TRADE MARK REGISTERED U.S. PATENT OFFICE

9 on MOHS' Scale

GREATER RESISTANCE TO WEAR . . . GREAT MECHANICAL STRENGTH

HOMOGENEOUS...SMOOTH...HIGHLY RESISTANT TO CHIPPING, CRACKING...CHEMICALLY INERT

FOR USE WHERE EXCESSIVE GUIDE WEAR IS EXPERIENCED

This is the first advertisement ever published on Alsimag 491. This technical ceramic composition was developed by the Research Division of American Lava Corporation some years ago. The physical characteristics of the material suggested its usefulness as a thread guide. A few leading producers of synthetic fibers were invited to install test guides of Alsimag 491 where excessive guide wear was a problem. Now, in the second year of practical plant tests, it is definitely known that Alsimag 491 sets new standards for thread guide performance. These practical tests are continuing.

For certain applications, Alsimag 491 is a superior alternative for the well known and long wearing Alsimag 192 and Alsimag 193 guides which have turned in such enviable performance records in mills throughout the world. The cost of Alsimag 491 justifies its use only in applications where excessive wear is experienced.

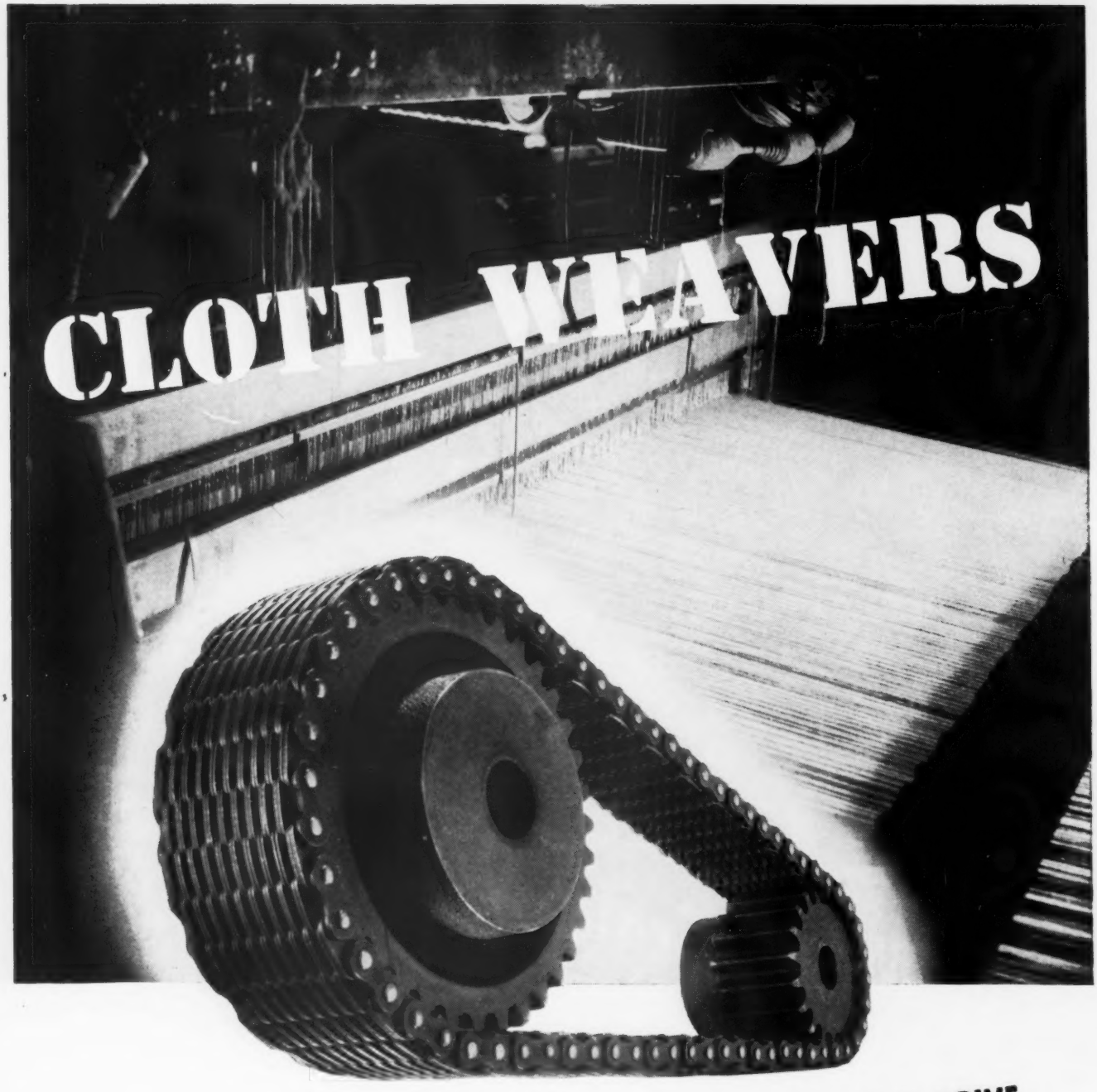
Alsimag 491 has already outlasted by four times any former guides used in one jute processing operation. The guides show no sign of wear. Tests as extrusion nozzles for carbon, for paper condensers and for guides on rayon, nylon, and other synthetic yarns have been extremely favorable. If you would like additional information on custom made guides of Alsimag 491 we will be glad to furnish it on request or to supply test guides made to your specifications at a reasonable cost.

AMERICAN LAVA CORPORATION

46TH YEAR OF CERAMIC LEADERSHIP

CHATTANOOGA 5, TENNESSEE

SALES OFFICES: ST. LOUIS, MO., 1123 Washington Ave., Tel: Garfield 4959 • CAMBRIDGE, MASS., 38-B Brattle St., Tel: Kirkland 4498 • PHILADELPHIA, PENNA. 1649 N. Broad St., Tel: Stevenson 4-2823
NEWARK, N. J., 671 Broad St., Tel: Mitchell 2-8159 • CHICAGO, 9 S. Clinton St., Tel: Central 1721 • SAN FRANCISCO, 163 2nd. St., Tel: Douglas 2464 • LOS ANGELES, 324 N. San Pedro St., Tel: Mutual 9076



MAINTAIN PRODUCT UNIFORMITY WITH POSITIVE DRIVE

WHITNEY SILENT CHAIN

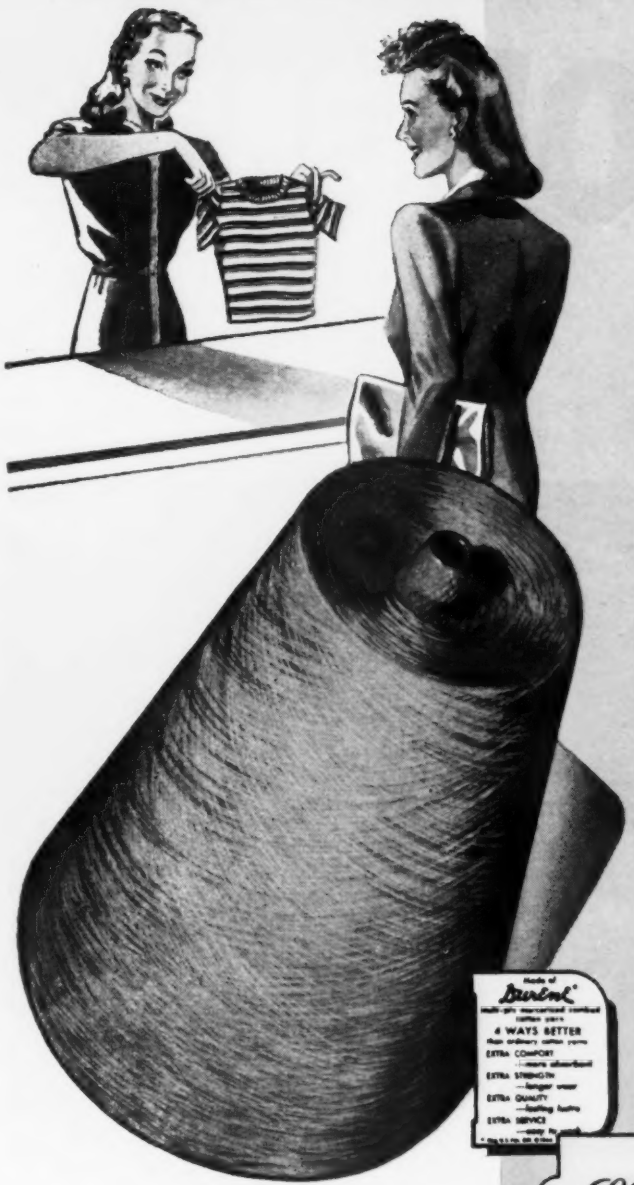
Product uniformity is a must in weaving of cloth. Misweaves make "seconds" . . . may mean the difference between profit and loss.

As a manufacturer or user of weaving machines, you can keep your rejects down to a minimum by using Whitney Silent Chains. These tough, rugged chains deliver full power without friction loss or slippage from power source to driven mechanisms. Their positive grip helps to maintain product uniformity by transmitting constant motor speed. They absorb shock loads without breakage. And because they are precision built of heat-treated alloy steel, Whitney Silent Chains give long life with minimum maintenance.

No matter what type of equipment you manufacture — from weaving machines to printers . . . or the type of equipment you use in your mill . . . it will pay you to *standardize* on Whitney Chain and Accurately Cut Tooth Sprockets — the *all steel drives*. Write for complete information and specifications.

THE WHITNEY CHAIN & MANUFACTURING CO.
211 Hamilton Street, Hartford 2, Connecticut

STANDARD *Durene* gives you greater production of quality knitwear—with more comfort, beauty and wear



Your knitting machines will turn out more quality knit goods per hour when you run Standard Durene. This superior combed mercerized yarn is made so uniform, supple, smooth and elastic it purrs through your needles. It produces more lustrous, soft, smooth-textured fabrics . . . the kind that keeps your customers sold. You run no quality risk with Standard Durene. Its careful processing is all done in our own plant. Standard Durene is rigidly controlled by us from the purchase of selected quality raw cotton to the finished yarn package.

Standard Durene measures up not only to high Durene quality but to our own high standards evolved from our more than seventy years' experience and our constant research. Nationally known manufacturers always choose Standard Durene to safeguard their quality reputation . . . Keep your quality customers satisfied . . . specify Standard Durene.

Standard Durene · Selo · Mercerized Combed Saks · Threads

S-C-T

Standard-Coosa-Thatcher Co.

CHATTANOOGA 1, TENN.

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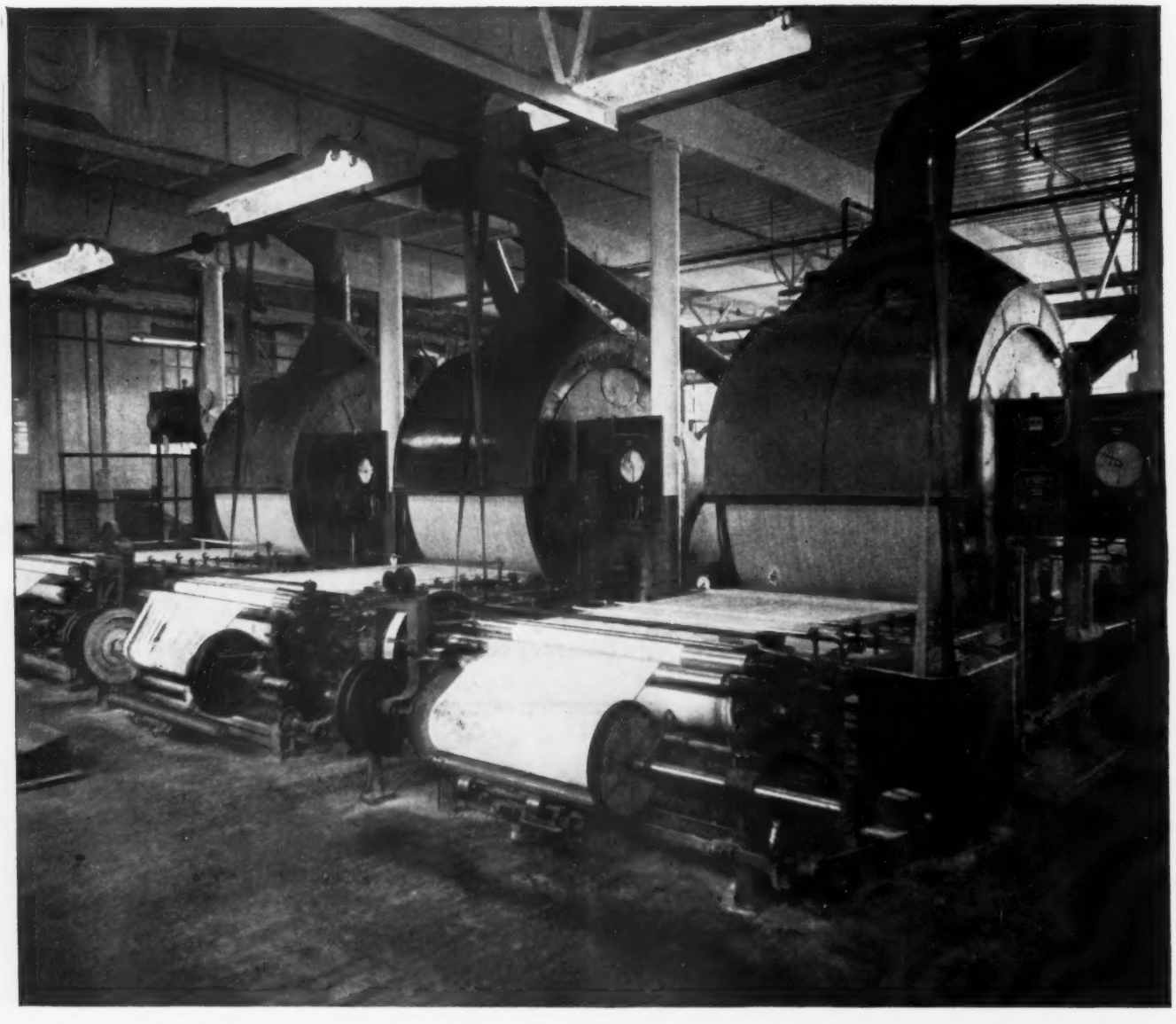
940 Merchandise Mart

Reading, Pa.
Fifth & Walnut Sts.

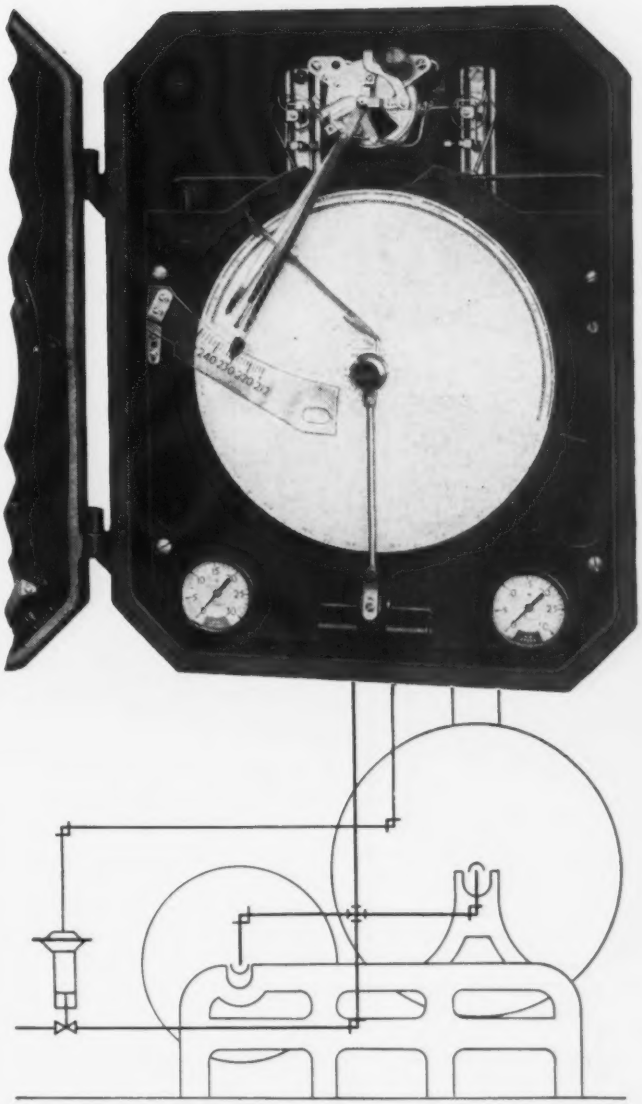
Utica, N. Y. P. O. Box 105

Representatives in Central and South American Countries

THE NEW LOOK at Utica



and Mohawk Cotton Mills



17 years ago the Utica and Mohawk Cotton Mills, Utica, N.Y., installed complete Taylor Control Instruments on their slashers, size cooking kettles, and storage kettles. We believe the best proof of their accurate, dependable service is that Utica and Mohawk just came back to us for new instrumentation as a part of their extensive modernization program. They have already installed new Taylor Controls (see 3 panels on opposite page) to maintain correct size box level and temperatures and drying cylinder temperatures. These standard Taylor Control Systems are giving them:

Uniform deposit of size.

Proper setting of the size on the warp.

Correct laying and binding in of the warp fibres.

Retention of the proper moisture in the warp.

Decreased shedding of dried size.

Assurance of no steam consumption over actual requirements.

The result is stronger, more elastic warps insuring less breakage, fewer loom stoppages and increased production at lower cost.

The latest instrumentation refinement is the new cylinder control system shown at the right. A Fulscope Double Duty Controller which controls (1) temperature of the condensate and (2) pressure on the slasher cylinders. Only one control point adjustment is needed when switching from one weight yarn to another. At no sacrifice to slasher production, this control system maintains consistently ideal conditions in the cylinders. And its precision control permits the maintaining of cylinder pressures at the most efficient value without wasting steam in blow-offs and through pop-valves.

Whether your problems involve a new building program or modernization, Taylor is ready to supply you with any or all of the following time-proven control systems: *size cooking; size storage; size box level and temperature;* and *cylinder temperature and pressure control.* May we hear from you? Ask your Taylor Field Engineer or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

Taylor Instruments

MEAN

ACCURACY FIRST

IN HOME AND INDUSTRY

It's the SIDES of a V-Belt

that GRIP the Pulley
Pick-Up the LOAD
and Really Get the WEAR!

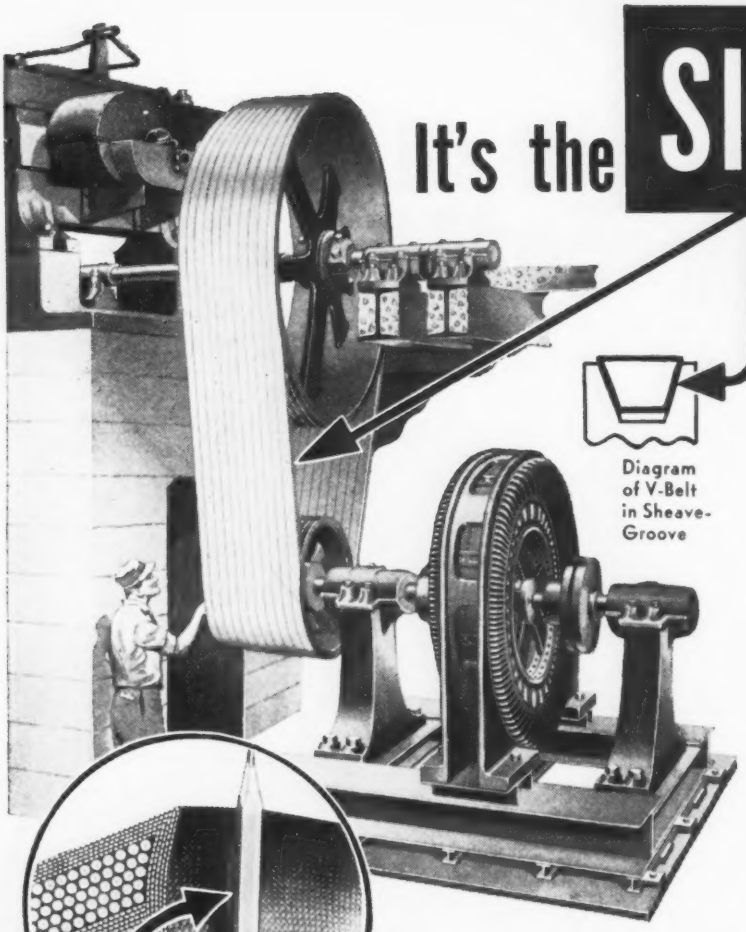
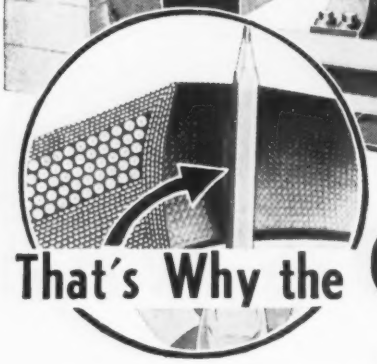


Diagram of V-Belt in Sheave-Groove

Every ounce of load a V-Belt carries must first be picked up by the sides of the belt. Clearly so, because only the sides come into contact with the pulley! The sides do all the GRIPPING on the pulley. The sides pick up the load. They transmit that load to the belt as a whole. And then, once more, the sides—and the sides alone—grip the driven pulley and deliver the power to it. Finally, the sides get ALL THE WEAR against the sheave-groove wall.

That is why you have always noticed that the sidewall of the ordinary V-Belt is the part that wears out first.



That's Why the Concave Side

(A GATES PATENT)

IS IMPORTANT TO YOU!

Clearly, since the sidewall is the part that wears out first, anything that prolongs the life of the sidewall will lengthen the life of the belt—and that's why the patented Concave Side is important to you.

The simple diagrams on the right show exactly why the ordinary, straight-sided V-Belt gets excessive wear along the middle of the sides. They show also why the Patented Concave Side greatly reduces sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

and the CONCAVE SIDE is more important NOW than ever before

Now that Gates SPECIALIZED Research has resulted in Super Vulco Ropes capable of carrying much heavier loads—fully 40% higher horsepower ratings—the sidewall of the belt is called upon to do even more work in transmitting these heavier loads to the pulley. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important now than ever before!

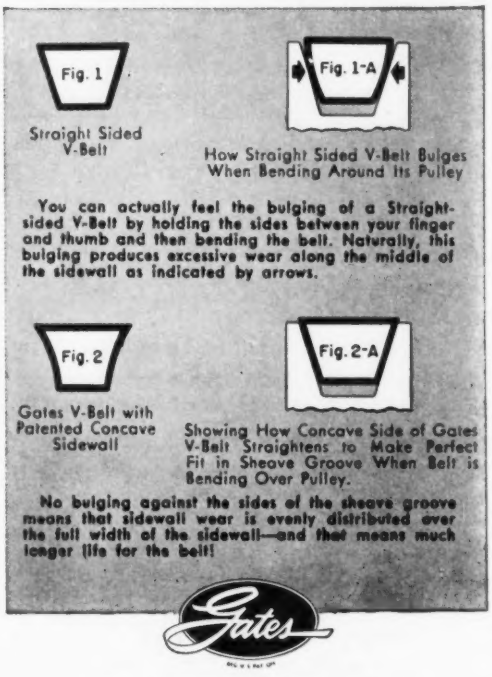


Fig. 1
Straight Sided V-Belt
Fig. 1-A
How Straight Sided V-Belt Bulges When Bending Around Its Pulley
You can actually feel the bulging of a Straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.
Fig. 2
Gates V-Belt with Patented Concave Sidewall
Fig. 2-A
Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt is Bending Over Pulley.
No bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!
Gates

The Mark of SPECIALIZED Research

482

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

THE GATES RUBBER COMPANY

"The World's Largest Makers of V-Belts"

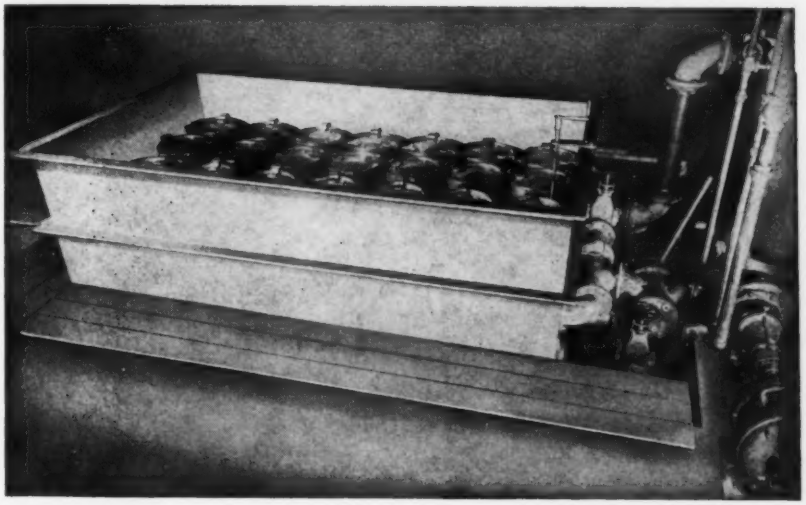
DENVER, U. S. A.

Obermaier Reg. Trade Mark

LOOK FOR THESE MARKS

Stienen Trade Mark

THESE NEW WORSTED TOP DYEING MACHINES
IMPROVE QUALITY AND PRODUCTION

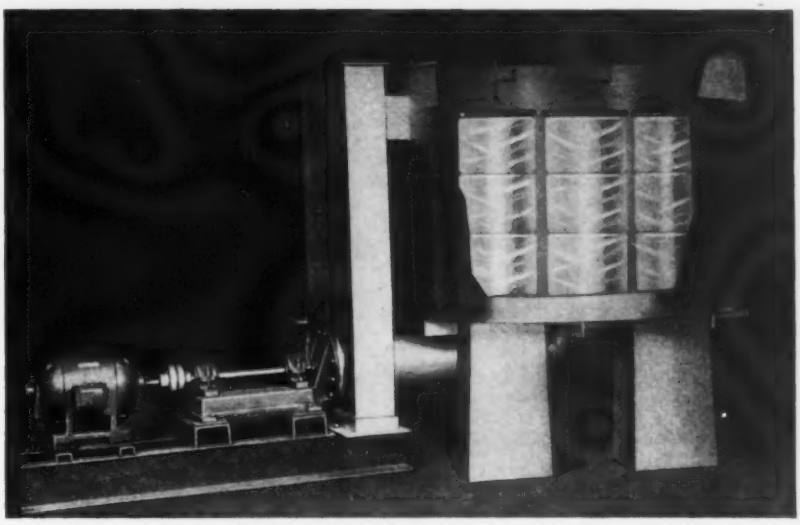


WORSTED TOP DYEING MACHINE

In this new machine each worsted top of 15 to 18 pounds is individually dyed, thus assuring maximum fiber protection. A connected vacuum station extracts moisture from the dyed top, without the tops being removed from their individual pots. All stainless steel construction.

ALSO THE LATEST SPINDLE SYSTEM WORSTED TOP DYEING MACHINE MODEL RAPR

All Stainless Steel Construction, especially designed for dyeing worsted tops by spindle system. Processes tops of different dimensions or uniform dimensions at the same time, giving thorough penetration in either case.



WORSTED TOP DYEING MACHINE—SPINDLE SYSTEM, MODEL RAPR

Standard Fabricators

355 WALTON AVENUE INCORPORATED NEW YORK 51, N. Y.

BUILDERS OF

COTTON AND WOOL DYEING MACHINES
FOR BEAMS—PACKAGES—RAWSTOCKS—SKEINS—RAYON CAKES—DYE SPINDLES—PERFORATED TUBES
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DYE-SPRINGS TRADE MARK

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INDIA
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Textile Engineers
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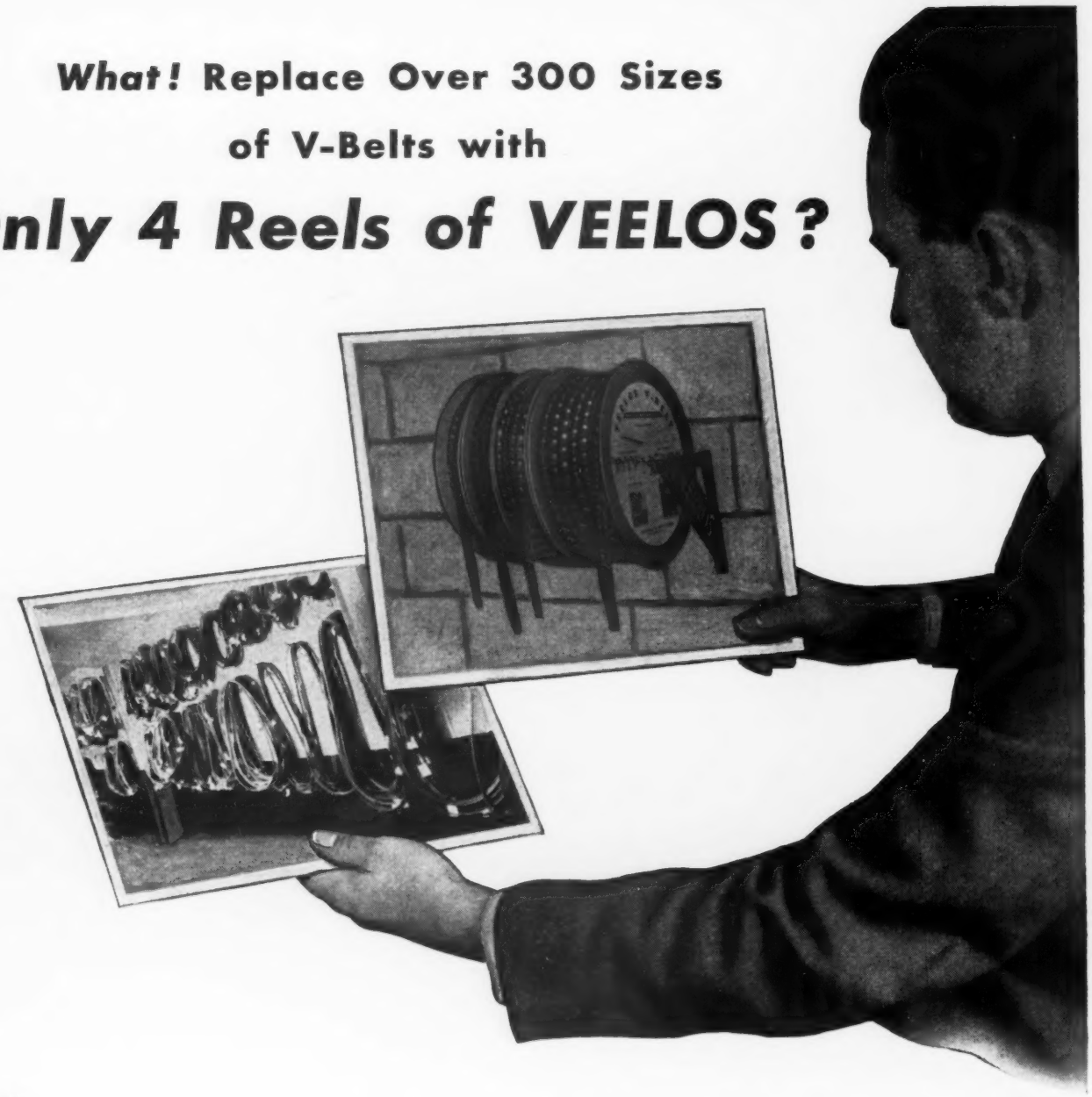
What! Replace Over 300 Sizes of V-Belts with

Only 4 Reels of VEELOS?



Put four reels of Veelos, the link V-belt, into your stockroom and you can make up as many as 316 sizes. Or one reel may be all *you* need for a complete V-belt inventory. Belt replacements of *any* length for *any* type drive are always immediately available. Veelos is easily uncoupled and made endless . . . saves installation time.

When you buy Veelos on reels, you end costly V-belt inventory. No need to stock spare sets of belts for each size drive. Obsolescence and deterioration are eliminated. Stock records are simplified. Standard reels of Veelos hold 100 feet . . . save storage space.

Veelos is available in all standard sizes, fits all standard grooves.

Sales engineers located in principal cities; over 300 distributors throughout the country.

VEELOS
THE LINK
V-BELT

Send for Free Copy

NEW VEELOS CATALOG describes 14 distinct advantages of Veelos. Page after page of pictures show Veelos at work in a wide variety of industries. All the facts and full engineering data are given.

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PENNSYLVANIA

VEELOS is known as VEELINK outside of the United States

ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

AVONDALE
ELIMINATES COSTLY FLOOR DAMAGE BY MOUNTING LOOMS ON

UNISORB

Draper Model X Looms installed at Avondale Mills on UNISORB.

NO BOLTS
NO LAG SCREWS
NO HOLES IN FLOORS

Avondale Mills, Pell City, Ala., anchors its looms on UNISORB.

The hole-drilling and floor damage that go with bolt and lag screw mounting are thus eliminated . . . and another textile manufacturer's valuable floors protected by UNISORB Mounting.

This modern anchoring method is simple, quick and inexpensive. A special cement binds the UNISORB pads to the machine feet and the floor. Permanent set absolutely prevents any riding.

UNISORB absorbs from 60% to 85% of transmitted vibration and noise. This helps you save on machine repairs and building maintenance, helps you provide employees with quieter surroundings — and helps them work more efficiently.

Send for sample and complete specifications. Ask for your copy of "Why it Pays to Anchor Your Machines with UNISORB."

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

THE FELTERS COMPANY

210-W SOUTH STREET, BOSTON 11, MASSACHUSETTS

Offices: New York, Philadelphia, Chicago, Detroit
Sales Representatives: San Francisco, St. Louis
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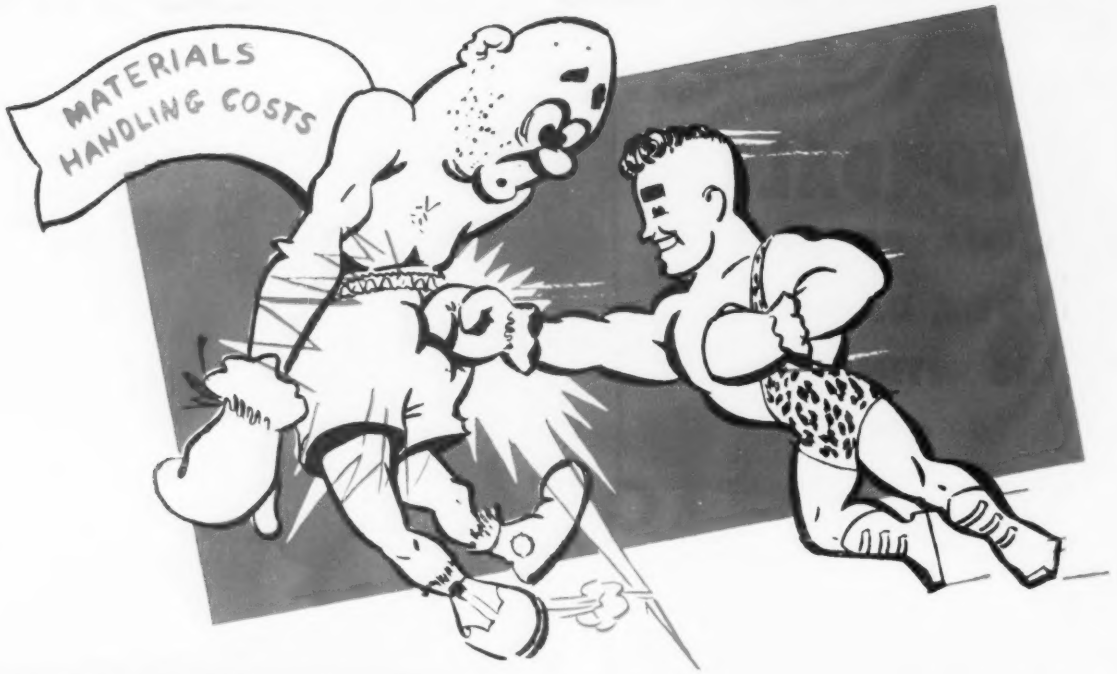
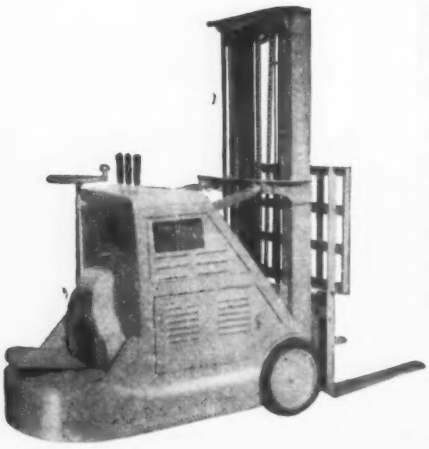


MOBILIFT *"The Mighty Midget"*

A Cost Cutter with a Punch!

It's a tough battle, this constant fight to keep production costs down. Shortages keep material costs up. Labor costs are high and steadily increasing. Taxes are as high as ever.

But there is one logical way out—and that is in handling materials. Handling costs are no match for Mobilift—affectionately known as "The Mighty Midget" by thousands of users. Mobilift, because of its size, its ease of handling and its all around operating speed has many economies. It makes more trips per hour—moves more tonnage per day than any other fork lift truck on the market. It saves time, space and human energy. It cuts handling costs in every department from the loading platform to the warehouse. Put the Mighty Midget to work cutting costs in your plant or warehouse. Send for our 16-page illustrated folder on modern Mobilift operation.



MOBILIFT CORPORATION
835 S.E. Main St., Portland 14, Oregon

Please send me your illustrated folder on Mobilift operation.

Name _____

Firm _____

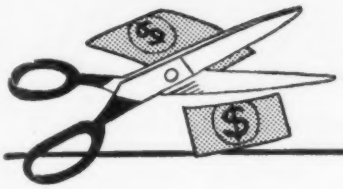
Address _____

City _____ State _____

MOBILIFT
"The MIGHTY MIDGET"

SALES OFFICES
IN MAJOR CITIES

Pays its way in Savings to You



WITH LOW OVERALL COSTS

O&S "Powermasters" are steadily setting records for low-cost operation, in plants throughout the world. Overall cost savings can make your investment in this "packaged" unit "pay out" in two or three years.

Reports from many dairymen, launderers, dry cleaners, bottlers, food processors and other manufacturers offer plenty of evidence that the "Powermaster" saves fuel, time and money as well as valuable space.

Its special O&S design, its forced draft feature, its sound 3-pass construction and automatic operation are among the many reasons for this unit's year 'round economy. Mainly, it is because the "Powermaster" gives you 4 units in 1:

Boiler, oil burner, condensate return system and automatic control panel . . . all O&S-designed and built . . . are integrally mounted into one compact "packaged" unit.

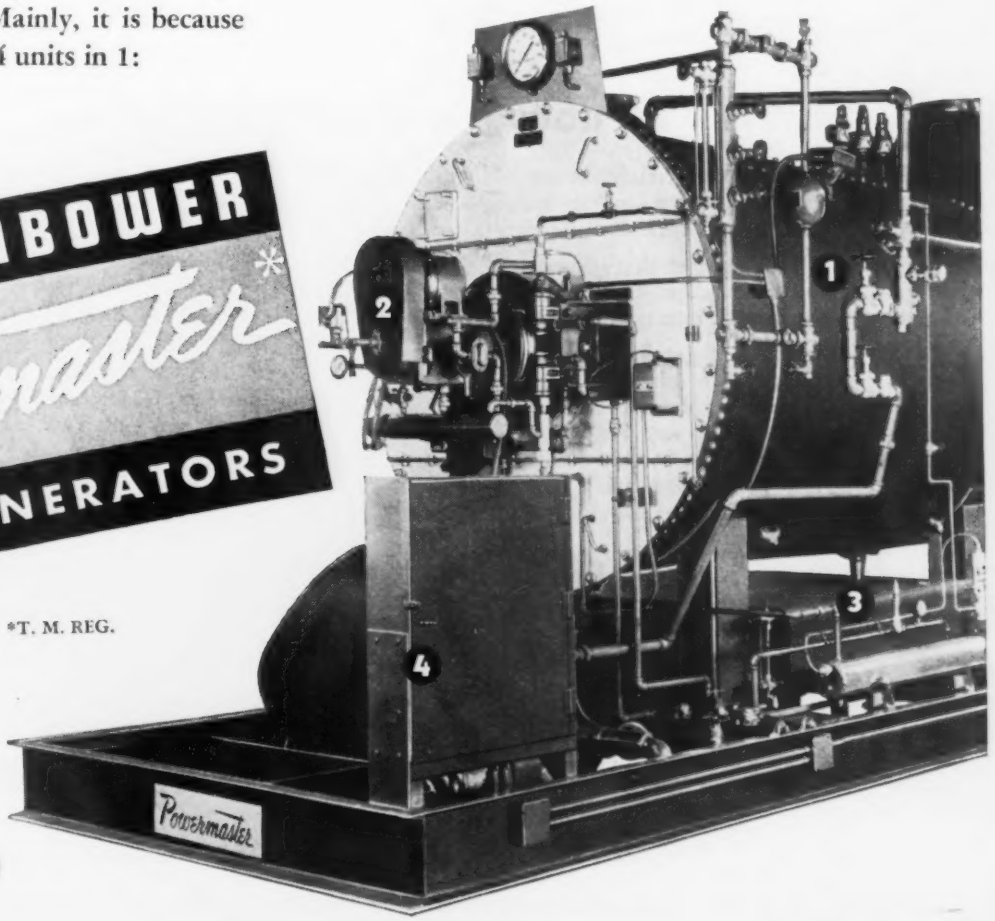
Sold only by factory representatives — and serviced by factory trained mechanics — the "Powermaster" offers the unique advantage of one-company responsibility.

Write for Bulletin #1215 describing O&S "Powermasters" — America's leading steam generating units

ORR & SEMBOWER, Inc.
970 Morgantown Road, Reading, Pa.

ORR & SEMBOWER
*Powermaster**
STEAM GENERATORS

*T. M. REG.



4 UNITS IN 1 . . .

1. Powermaster Boiler
2. Powermaster Oil Burner
3. Powermaster Condensate Return System
4. Powermaster Control Panel

IT TAKES 28 HOURS TO GRIND AND LAP THIS FEDERAL BALL

See this ¼" ball? Twenty-eight hours of grinding and lapping are required to round out its dimensions before it can take its place in a Federal Ball Bearing assembly.

To you as a bearing user that's important, for *only one* bad ball ruins a bearing's efficiency, impairs the performance of your equipment, interrupts production.

But no bad balls can get by the sensitive "fingers" of Federal's electrically controlled inspection gauges. Each ball must be uniformly spherical within .000025" and the variation in diameter in any bearing is not more than .00005". Made of through-hardened chromium alloy steel, each is crush-tested for load-bearing strength, micro-tested to reveal hidden pits or scratches and polished to its lustrous super-finish.

So it goes through every Federal manufacturing step. More than 100 individual production, inspection and cleaning operations go into a single-row radial ball bearing. *Every fourth operator is an inspector.* Add them up and you have *positive* precision performance in textile machinery, the kind of precision that "labels" a Federal Bearing-equipped machine tool, electric motor, automobile or airplane.

Our catalog "K" illustrates the completeness of the Federal line. Write for it today. Or better still, call in the Federal representative nearest you. He'll recommend the bearing best suited to your application.

THE FEDERAL BEARINGS CO., INC. • POUGHKEEPSIE, NEW YORK

Makers of Fine Ball Bearings

REPRESENTATIVES LOCATED AT

Detroit: 2640 Book Tower–26 • Cleveland: 402 Swetland Building–15
Chicago: 8 S. Michigan Ave.–3 • Los Angeles: 5410 Wilshire Blvd.–36

Quality since 1908

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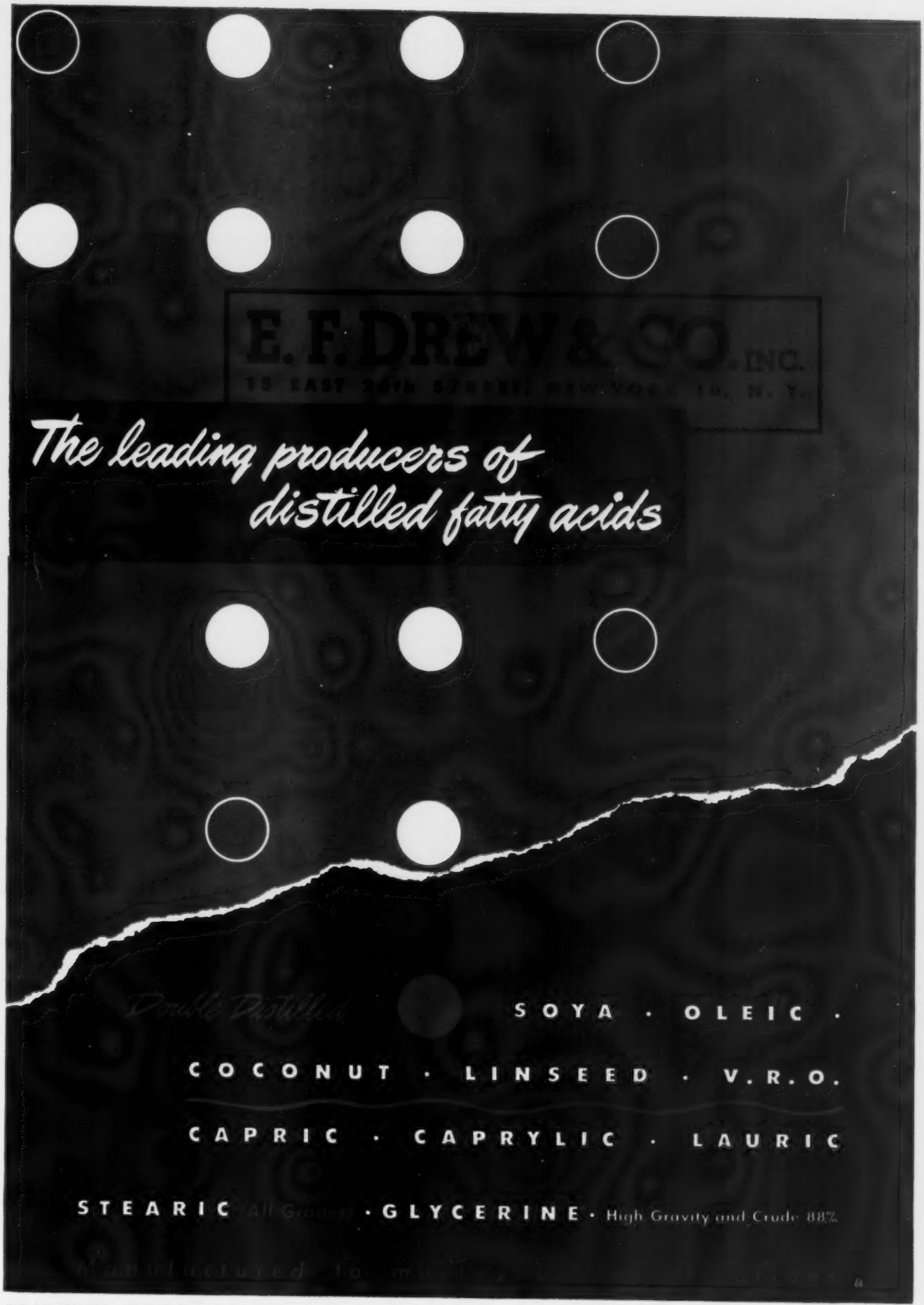
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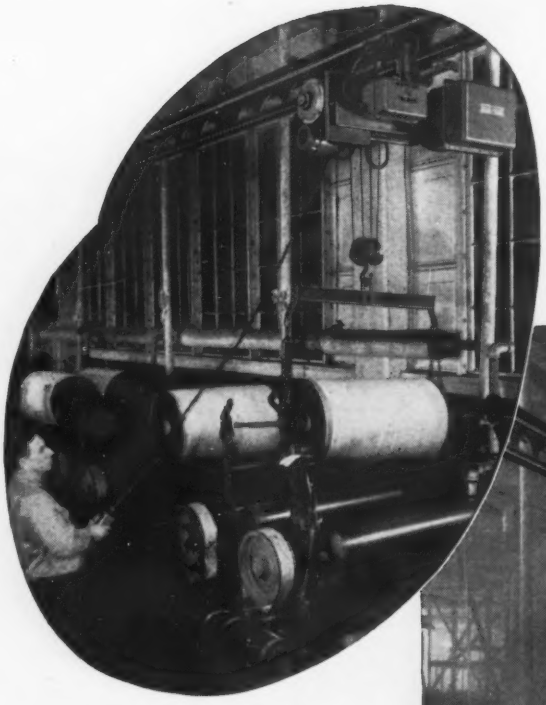

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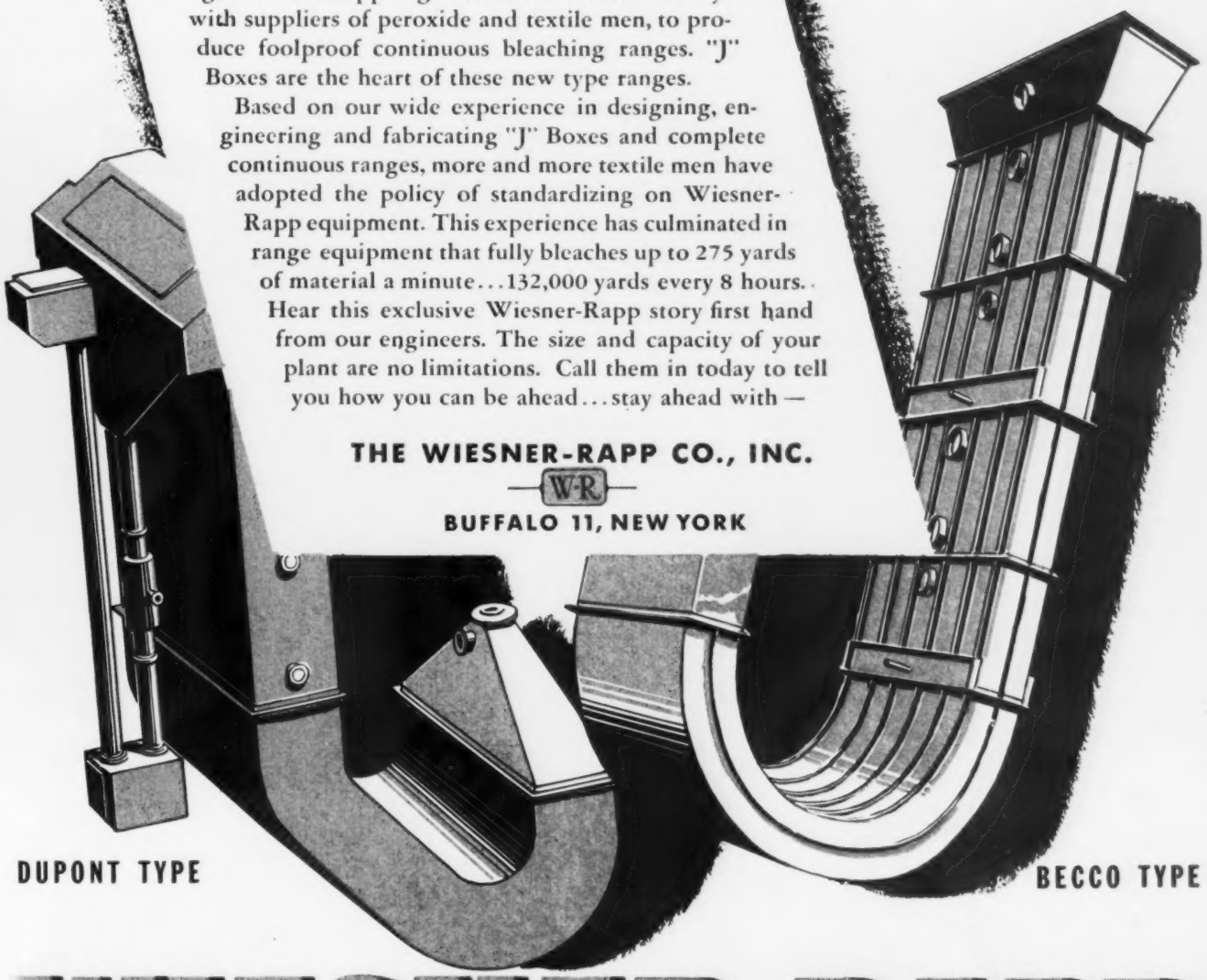

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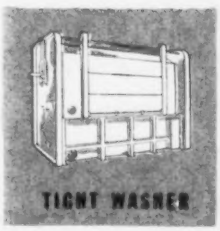

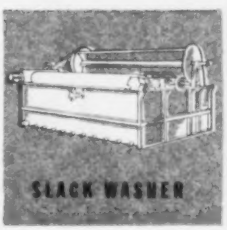

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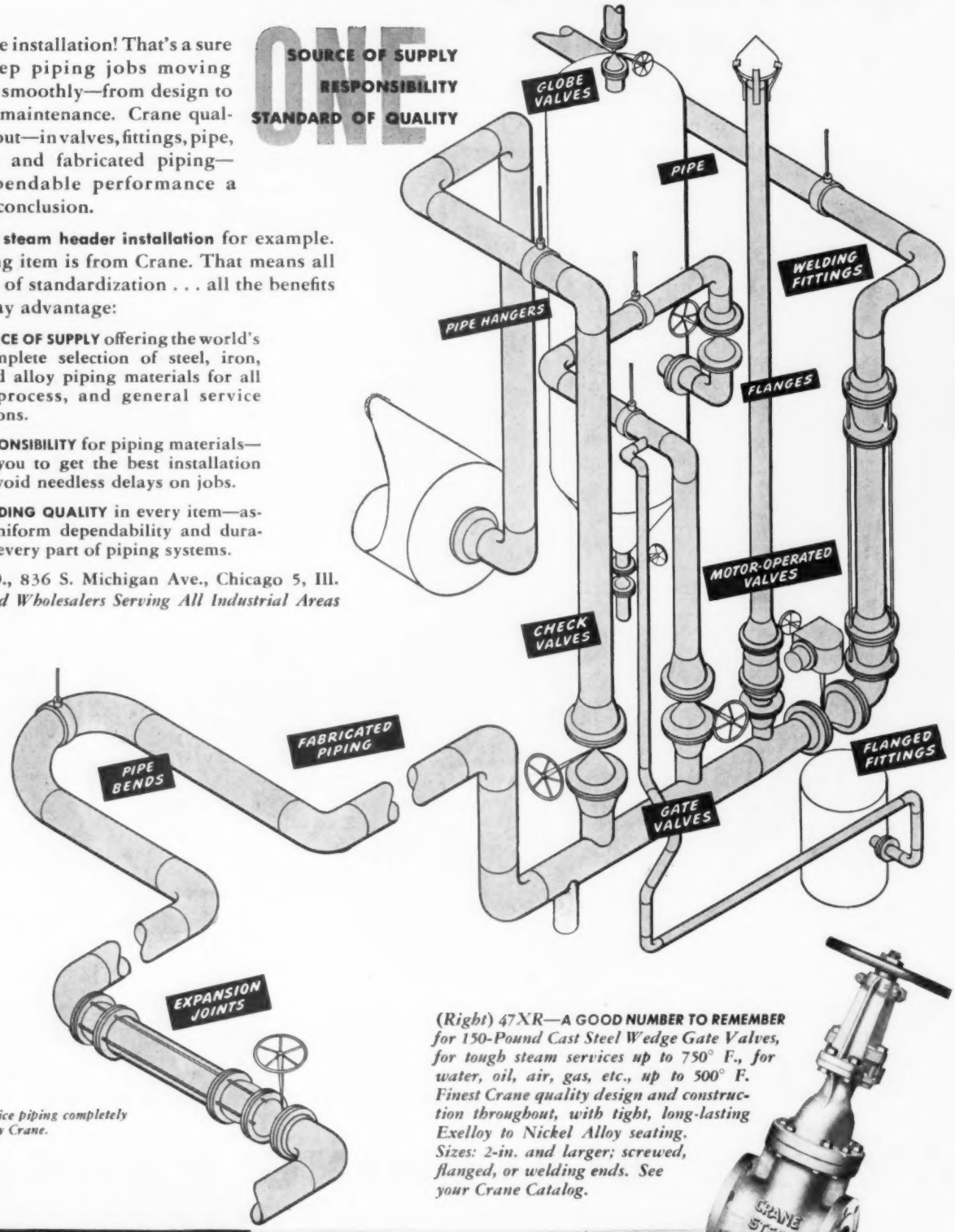

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Air View of the Lancaster Plant and Mill Village of The Springs Cotton Mills.
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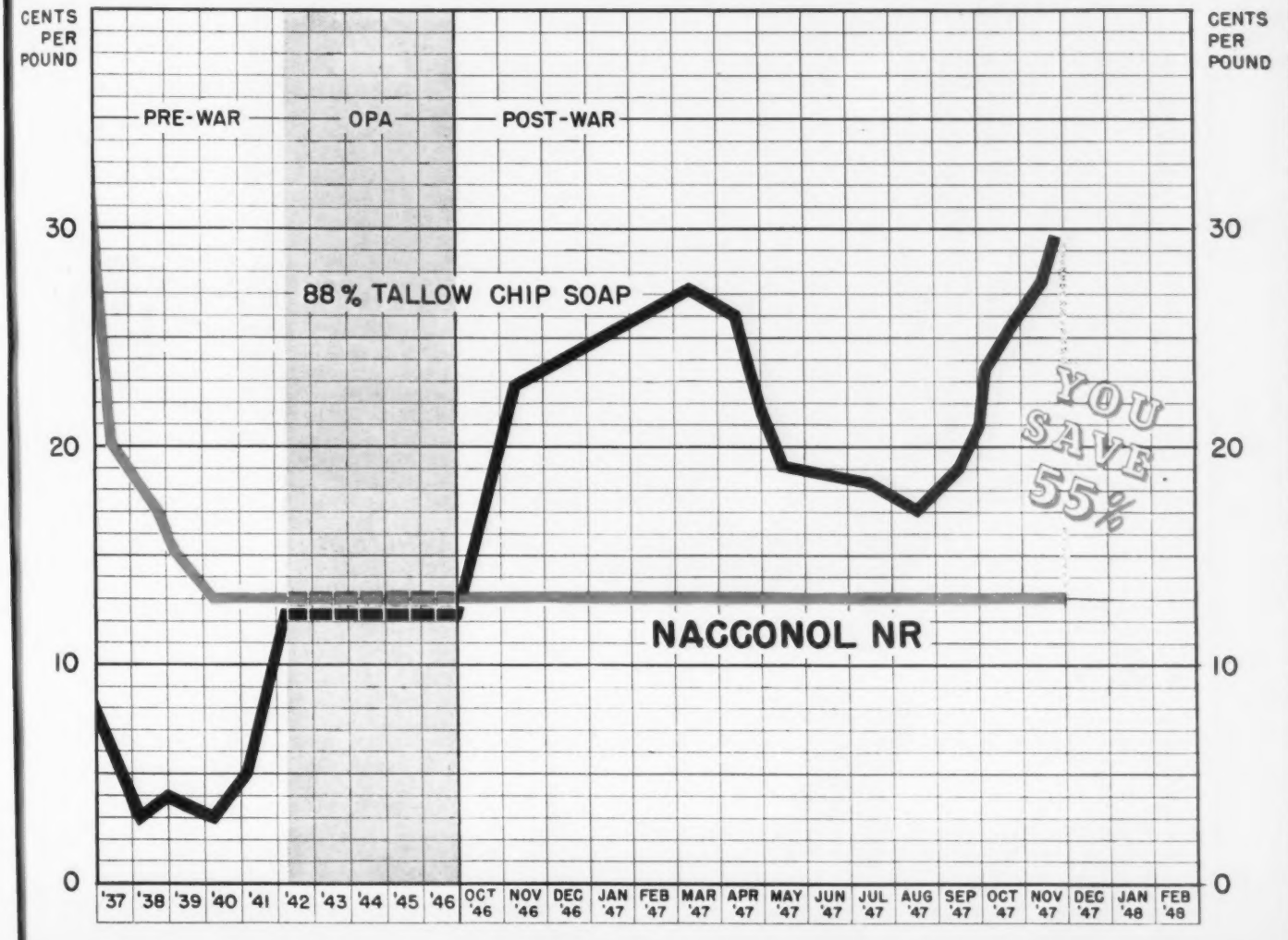
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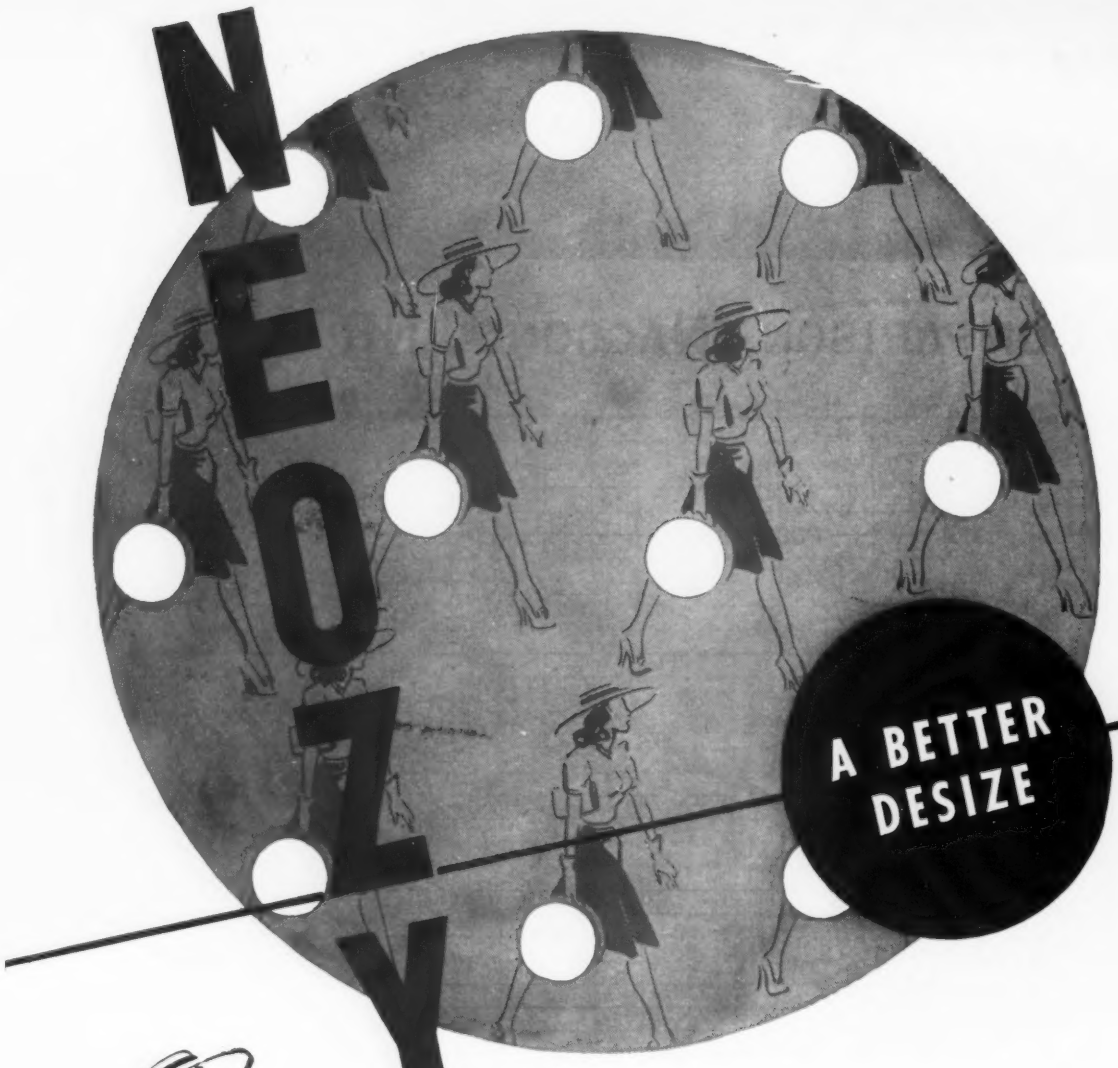

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1949 — Can Be a Good Year Too

You can expect good business to run on well through 1948.

But old-time competition is close upon us.

And 1949 will be a critical year for all of us — making lower taxation imperative NOW.

These are the main conclusions drawn from a nation-wide survey of industry's plans for new plants and equipment which McGraw-Hill has just completed. Here are the major findings:

1. Capital expenditures in 1948 may be a little lower — but at the most only 8% lower — than in 1947.
2. In 1949 capital expenditures may decline. 1949 plans are still fluid. However, those which have been projected now show a falling off. (Washington planners, please note: Current official attempts to discourage capital expansion may turn out to be superfluous — or downright dangerous.)
3. Industry's initial postwar rebuilding will be 85% complete at the end of 1948. When this first wave of deferred maintenance and expansion is finished, American industry will have more than half again the capacity it had in 1939. This does not mean the end of needed capital expenditures. Business will need to invest much more. (President Truman sets an investment goal immediately ahead of $50 billion.) But it does mean that tough competition is returning fast.

• IF YOU WANT *full details of the McGraw-Hill survey of Capital Expenditures, which is summarized in this editorial, write to the Economics Department, McGraw-Hill Publishing Company, 330 West 42nd Street, New York 18, N.Y.*

These are solid facts, based on plans which are firmly made by a broad cross-section of American industry and which the McGraw-Hill survey revealed.

The greatest contribution of this survey is the information it supplies on business plans for the purchase of new plants and equipment. What business planned to do about such expenditures was by far the biggest unknown element in the 1948 outlook. For, if business planned to slash its outlays for plants and equipment this year, that fact alone could bring a sharp downturn in business.

In making this survey, McGraw-Hill researchers all over the nation personally interviewed top executives of companies selected to make up a scientific cross-section of industry. Each executive was asked to give, *not his opinion* about general business trends, but *factual details* about his company's plans for 1948. By adding together the plans of the companies interviewed, McGraw-Hill has secured, for the first time, a reliable picture of what business plans to do in the months ahead.

Here are plans for 1948 and 1949, as revealed by the survey:

1. Industry still needs more than a year to finish its initial postwar maintenance and rehabilitation program.

Among manufacturing industries, top executives report that 64% of their program for the immediate postwar period is now complete. According to present plans, 85% will be installed by the end of this year even though some manufacturing industries still have a long way to go. For instance, oil companies will complete only three-quarters of their presently planned expansion program by the end of 1948.

2. Business may spend less on new plants and equipment this year than the record $16.1 billion spent last year. But the decline

probably will be negligible and certainly will not be great enough to bring on a business recession.

At the time McGraw-Hill interviewed top executives, some companies had not yet approved their 1948 capital budgets. Under the extreme assumption that those particular companies will make *no* capital expenditures in 1948, industry's 1948 bill for new plants and equipment will run to $14.9 billion, or 8% below last year's record figure. Under the more realistic assumption that those companies will cut their capital investment only as much as the companies which had already drawn up their plans for 1948, industry's 1948 capital budget will run to almost $15.8 billion, a decline of only $300 million from 1947.

Thus the over-all conclusion of the McGraw-Hill survey is that capital expenditures by business will be only slightly lower this year than last.

3. Business executives will not slash their 1948 capital budgets unless they are convinced that a real slump is in the offing—and they are not convinced now.

Almost two-thirds of all manufacturing companies say they would not cut capital budgets sharply even if business activity declined 20%. What is more, even a 15-20% boost in wage rates would have little effect on projected capital budgets. If wages go up, 57% of manufacturing companies would not change their capital budgets, 26% would increase them, and 17% would cut them.

4. Most executives look for an increase in their company's sales this year.

More than half of all manufacturing companies are planning on a sales increase over last year of 10% or more. A third of them say sales will be about the same as in 1947. And fewer than 10% look for lower sales.

5. Manufacturing companies will finance much of their purchases of new plants and equipment in 1948 from funds set aside out of past or current earnings.

Utilities and railroads, on the other hand, must go to the securities markets or commercial banks to finance most capital expenditures.

Although manufacturing companies say they can finance this year's capital expenditures in large part from current profits and past savings, all evidence indicates that, to do so, they will use up most of the funds they earmarked during the war for this purpose. So in 1949, industry must go to the capital markets or to the commercial banks if it is to continue to spend for capital purposes. If the securities markets continue to lie in the doldrums, *as they will under present tax laws,* only companies with triple A credit ratings will be able to raise funds that way.

6. Purchases of new plants and equipment may fall off in 1949.

The McGraw-Hill survey collected all available evidence on plans for 1949 capital budgets. Fewer than 40% of all manufacturing companies now have definite plans for 1949. Of those that have plans, 45% intend to spend less than in 1948, 30% plan to spend the same amount, and a quarter expect to spend more. These preliminary decisions would seem to indicate that capital investment may fall off in 1949.

7. Industry's production capacity in 1949 will be far above prewar.

Manufacturing capacity will be more than 50% greater than in 1939 once the present wave of postwar building is complete. Almost a third of all manufacturing companies report that their capacity will be double or more than double the prewar figure. Thus, 1949 may see a huge increase in production of many things that now are hard to buy.

The last two points in this summary mean that 1949 will be a critical year. We must forestall a sudden drying up of capital expenditures in that year. We must be able also to absorb a great outpouring of production both of capital and consumer goods.

What will happen to business in 1949, therefore, will depend on how successful we are this year in dealing with such momentous problems as taxation, foreign aid and prices. But 1949 *can* be a good year too.

The next editorial in this series will discuss the pivotal problem of taxes.

President, McGraw-Hill Publishing Company, Inc.

THIS IS THE 65TH OF A SERIES

Annual
REVIEW & FORECAST
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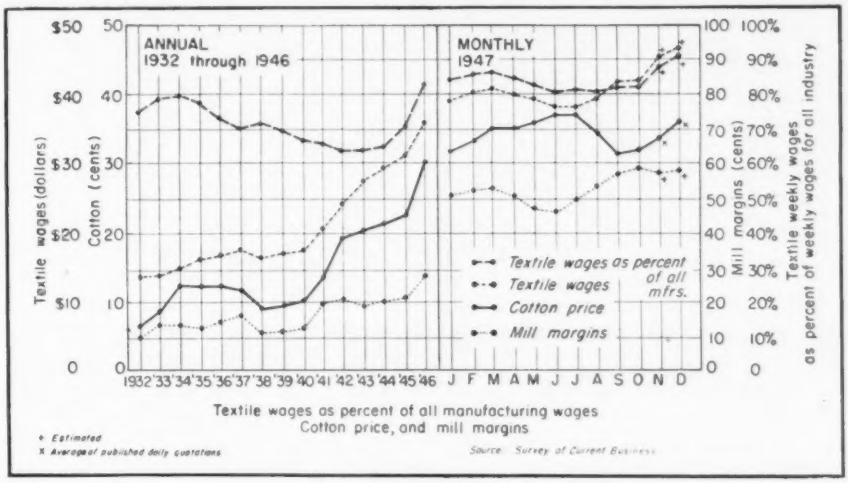

ANNUAL
1932 through 1946
MONTHLY
1947
Textile wages (dollars)
Cotton (cents)
Mill margins (cents)
Textile weekly wages as percent of weekly wages for all industry
Textile wages as percent of all mfrs.
Textile wages
Cotton price
Mill margins
1932 '33 '34 '35 '36 '37 '38 '39 '40 '41 42 '43 '44 '45 '46 J F M A M J J A S O N D
Textile wages as percent of all manufacturing wages
Cotton price, and mill margins
* Estimated
X Average of published daily quotations
Source: Survey of Current Business

Recent rise in textile wages relative to average of all industry is shown in upper curve in this chart prepared by J. B. Hosmer, consulting economist, Decatur, Ga. Other curves show steady rise of textile wages, fluctuations of cotton, and gain in 1947 in mill margins.

1948 May Duplicate Many

TEXTILE ACHIEVEMENTS of 1947

HIGHLIGHTS: Given "relative normalcy," there are bright aspects to the years ahead—Shadow on world peace is principal deterrent—Textiles now compete for workers on almost equal wage basis with other industries.

By WILLIAM B. DALL
Managing Editor, TEXTILE WORLD

WE ARE LIVING in two worlds. One is the familiar world of relative normalcy framed with work and play, the law of supply and demand, and many other old-fashioned things. The other is a fantastic, nightmare world of cold war or hot peace, like a deadly chess game in which individual moves are evident but their full meaning and the outcome obscure.

If we can be given what we have just called "relative normalcy," there are many bright aspects to the years that lie ahead. The recovery in Europe, a necessary ingredient to ultimate peace, is economically feasible, though politically uncertain. International trade, if guided by sagacity rather than selfishness, holds much of benefit to this country. The growing acceptance of the principles of the Taft-Hartley Act by the rank and file of workers if not the autocratic-type labor leader, gives hope for better-balanced solutions of labor problems.

The textile industry offers many constructive contributions to the welfare of the national economy. Large physical volume of product, high dollar value of sales, good ratio of profits, technological progress, employment at good wages, plant modernization, improved public relations—in the coming year all should equal or exceed the satisfactory achievements of 1947, according to the articles in this Annual Review & Forecast Section. And even the more distant future seems good.

As before, economists foresee need of certain readjustments. Some textiles are priced at a point which requires too large a share of the national income. They must come down or the national income increase. Agricultural products, including raw cotton, are relatively too high as compared with industrial products. The spread between them must narrow. Credit must be guarded as an aid to constructive development and not exploited as another inflationary influence. Government controls, which may re-enter the picture, must protect the consumer without strangling commerce. Wages must bear a reasonable relation to production and not be allowed to run wild in frantic and vain pursuit of the cost of living.

Unless these readjustments come smoothly by intelligent action, they can come roughly in a business recession. Economists have not been converted to the view that the new era contains no set-backs. Many of them, however, feel that proper guidance can minimize their injurious effects. Some see a potential turning point at the end of 1948; others put it off two or three years. At least, it is not just around the corner.

The articles that follow record 1947 achievements of the textile industry and its 1948 prospects. They include an economic analysis; a survey of mill expenditures; a check-up on progress in technology, machinery, research, engineering, and employee relations; the Washington viewpoint; and a round-up of textile developments in principal foreign centers.

The industry is calling for more skill on the part of its employees, and wage levels have risen to a point where textile manufacture can now compete for skilled workers with other industries previously paying much more. (See chart on this page.) Better facilities for employees' comfort are features of all new mills and are being installed in existing plants. The trend is toward more production per man-hour, gained by intricate high-speed machines run by better trained and more contented operators.

The hope may not be vain that, as this trend develops, textile prices may be reduced relative to wage levels, income, and cost of living. Such an outcome could bring substantial stability that would carry the industry through minor business recessions on even keel.

Chart I—TREND OF GENERAL TEXTILE ACTIVITY

Total monthly consumption of all fibers in millions of pounds; horizontal lines, yearly monthly averages

TEXTILE PRODUCTION PLATEAU

Will Run for Another Year

HIGHLIGHTS: Barring a turn in general business, economists see 1948 at least as good as 1947 in textiles—This means high physical volume, dollar sales, and profits as compared with prewar—1947 saw ups and downs of various lines which balanced out—Expected recession in 1947 was only mild dip.

By SANFORD S. PARKER, McGraw-Hill Economics Staff

THE TEXTILE INDUSTRY as a whole completed an outstanding year in 1947. Production maintained the high 1946 level. Prices—and dollar volume of sales and profits—zoomed to new peaks.

But 1947 was also a year of production readjustments. And production performed just about in the way that was forecast in these columns just a year ago. Over-all, it started the year high, dipped in the spring and summer, and recovered in the autumn (see Chart I). Output went up in some lines, but down in others (see Charts II, III, IV, and V).

Prices last year, however, did not decline as was expected. They began to do so in late spring only to be spun upward again by a new whirl of inflation. Economists had forecast a decline in prices generally in 1947. But their prophecies were upset at mid-year by short food crops, boosts in coal wages, and finally the proposed Marshall plan. Prices rose instead. And textile markets followed the general course of business.

For the coming year, textile production should do as well as in 1947. But some textile prices still appear too high and likely will come down relative to the general price level.

General business is sure to remain very active, what with exports to Europe and durable goods demand. A few economists, however, look for some business let-down to occur during 1948. It could arise from a pinch on credit and a cut in capital outlays for expansion.

Insofar as the outlook for general business is beclouded, so is the over-all outlook for textiles. Yet 1948 prospects can be seen more clearly for each division of the industry by itself than for the whole.

This was likewise the case in 1947, as we look back on the record in detail.

Last year, cotton cloth output totaled 9,700,000,000 yd., up 6% from 9,100,000,000 yd. for 1946. This jibes exactly with the forecast [TW, Feb.'47] of "yardage output within the 1940-1941 range" of 9,000,000,000 to 10,300,000,000 yd. Yet poundage-wise consumption of raw cotton fiber was off 4% from 1946. More yards were made from less fiber. Simple reason for this was a shift in production to lighter constructions. Peak demand for coarser industrial fabrics like duck, drills, toweling, and bagging was met early; their output eased and prices in many cases sank back to old OPA levels. Demand for lighter apparel goods, like print cloths and broadcloths, remained heavy; and their production and price increased.

TEXTILE WORLD
Textile Mill Activity Index

1923-25 average = 100

1929	115	1938	103
1930	89	1939	132
1931	93	1940	142
1932	83	1941	188
1933	104	1942	198
1934	90	1943	189
1935	105	1944	177
1936	124	1945	173
1937	125	1946	187
		1947	182

Woolen yardage in 1947 went down about 18%. A year ago, we could "see wool use retreat as much as a quarter at the low point of its recession"; actual yardage went off 28% from the start of the year to late summer.

Women's wear fell off more than one-fourth, while men's wear almost held its own. (Forecast: "Strength in men's wear will hardly offset weakness in women's wear.") Also, "signs of overproduction of blankets" were followed by a 28% drop in the 1947 output; "sustained carpet activity" was likewise borne out by a good gain in carpet wool use.

Rayon again boasted "the brightest record in 1947 as new plants to provide more yarn" came into production. Poundage advanced about 13%. Most mixtures and blends declined in volume, but construction of 100% spuns and 100% filament yarns absorbed available output.

The knitwear divisions, likewise, followed the over-all textile pattern. Production in 1947 expanded slightly

in total, but readjusted substantially from one line to another. [TW, Aug. '47, p.116].

TEXTILE WORLD's index of textile activity last year fell off 3% from its 1946 level, as a result of all these changes. The index is based on pounds of fiber used, not yardage produced. And, in the most important case of cotton textiles, poundage fell while yardage rose.

Production readjustments ran through a host of individual lines. Industrial fabrics were curtailed and print cloths expanded. Men's sport-coat fabrics went down, but standard-weight suitings went up. Fabrics for shirts and pajamas increased, while work-clothes fabrics declined. Knit underwear advanced, as outerwear retreated. The gains slightly exceeded the losses with the net result of sustaining 1947 textile markets.

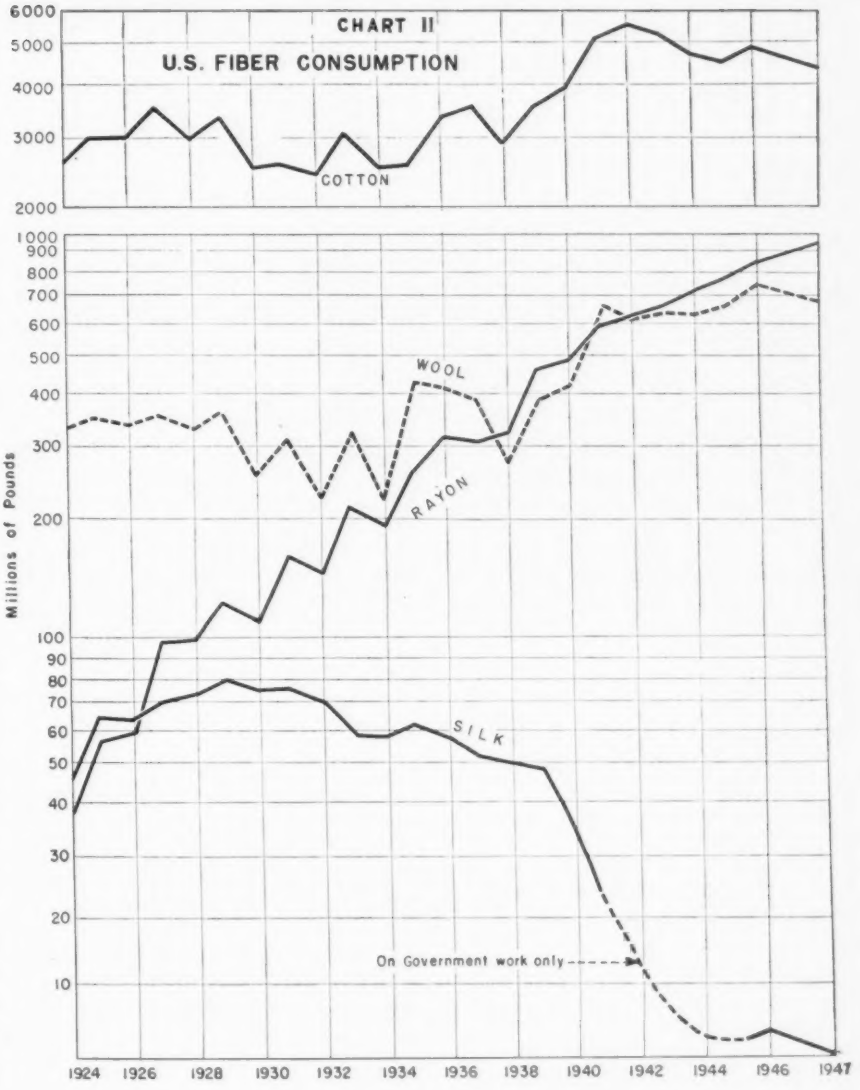
STRONG PRICES. While production moved as expected in 1947, prices did not. Instead of going down, they went up. However, this divergence means less than it seems on the face of things. For contract prices did not increase as much as open-market spot prices; nor was as much of a decline originally looked for in them. And the bulk of yardage is sold on contract.

Cotton-cloth price averages, instead of dropping 10 to 15% from their early 1947 peaks, eased only 2%; then they climbed to new highs. Wool-goods indexes, instead of holding steady, advanced about 10%. And rayon fabrics went up instead of down. In the first six months, raw cotton fell later and more sharply than cloth, and then recovered later and more sharply. Spot wool stayed on an even keel. Rayon-fiber prices jumped again near the year-end.

Price declines in 1947 had been expected because of two factors: (1) General business and national income were thought to be headed down; and (2) textile prices and value of output were regarded as too high for the market as measured by national income.

National income moved steadily higher (about 5% over the previous year), instead of lower. One reason was the strength in food prices, occasioned in part by poor crops here and abroad. Another reason was the recovery in homebuilding and other construction. A third was the prospect of sustained exports under the Marshall plan. In any case, the 1947 recession in business did not come off.

As a result, value of textile output for the whole year of 1947 was not so far out of line with its markets as at the start of the year. National income went up a little; and, through midyear, textile production and prices skidded slightly. The value of textile output ended the year a bit below where it started so far as rate is concerned, and the ability of the national market to buy that output ended a bit above.



Right now, however, the value of textile production seems again too high for the national income. Past relations between textiles and national income would not seem to warrant current levels.

It might be noted that the textile-national-income relationship may be more important this year than last. Last year, textiles readjusted to their markets more easily because of the continued underlying strength of demand for many goods. That is why output of some lines rose and of others fell. This year starts out with supply and demand for individual products much more normally balanced. There are many fewer tight items to fall back on.

FORECAST. Where textile markets move in 1948 depends in part on this relationship and in part on general business. If business and income steadily rise, as in 1947, textiles may readjust by holding the price line and/or by trimming output. If business drops, textiles will drop, too.

Right now, general business activity is high, and another spin of the inflation spiral through a third round of wage demands appears unavoidable. So for some months income certainly will climb.

Moreover, economists are almost unanimous in predicting the boom will last all through 1948.

A few pessimists believe that some reversal may set in later in the year, however. Despite the Marshall plan, exports in 1948 will be a mite below 1947. Also, additions to inventories will be smaller. Moreover, new plant capacity will put more goods on the market. And crops may prove more bountiful. Such developments, finally, may be coupled with a squeeze on capital. Credit

Chart III—COTTON
Woven Broad Goods
Production by Quarters

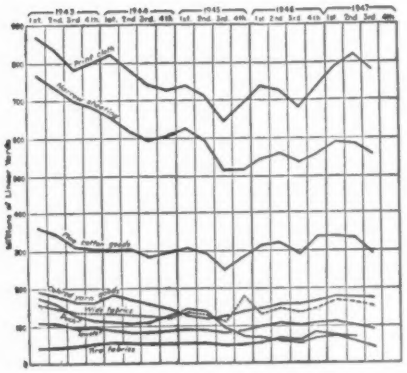


Chart IV—WOOLEN & WORSTED
Woven Goods
Production by Quarters

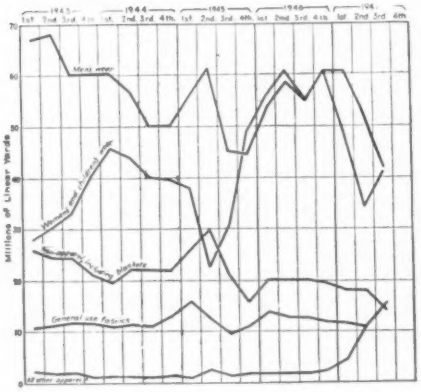
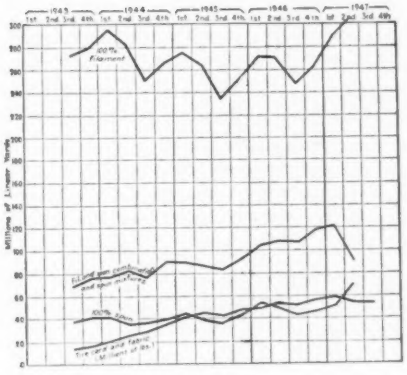


Chart V—RAYON
Woven Broad Goods
Production by Quarters



is becoming more difficult and more costly to raise, business outlays for new plant and equipment may go down. Such factors might put the upward spiral into reverse gear.

While price and market changes for 1948 textiles hinge directly on the course of general business, production does not to the same extent. Output is not likely to move very much one way or the other.

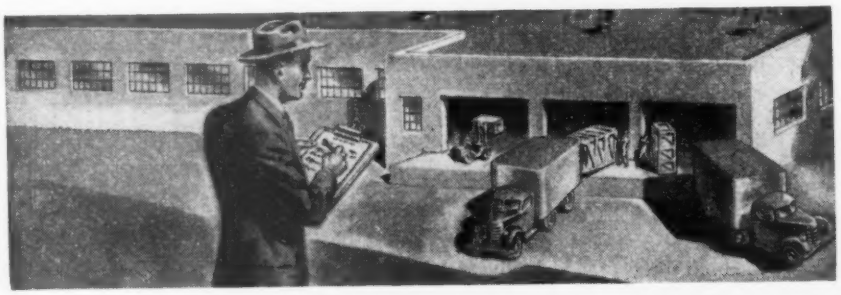
Last year's cotton-plus-rayon yardage was about 75 yd. per person, exports aside. Current rates are a bit higher. Even if business dips, consumption is unlikely to fall much. We used 70 yd. per person in the late '20s when times were good, and averaged almost as high in the late '30s. In the 1942-1945 war years, output was only 60 yd. per civilian and so needs are higher now. Cloth exports next year will be down, but most of the shrinkage has occurred already.

Cotton cloth output, therefore, will again stay between 9,000,000,000 and 10,000,000,000, yd. for the year, depending on general business. Meanwhile, rayon-fabric production will climb as new yarn plants start operations (for rayon fiber is still cheaper than raw cotton). No increase in raw-cotton poundage consumption is in store, however, as paper is making inroads on cotton's industrial domain and rayon gradually is replacing cotton in tires.

As for wool apparel fabrics, no great change impends. A slight decline is more probable than a rise, however. Men's and women's wear divisions are about in line with prewar highs. Blanket output will again be off somewhat, while carpet activity will gain slightly.

PROFITS. Last year was another record breaker for textile earnings. They topped the previous 1946 peak for net after taxes of over $500,000,000 by a handsome margin.

Dollarwise, with all prices higher in the economy, 1948 profits quite likely will do about as well as last year. Output and prices will be at least as high as in 1947, and value of sales probably a little higher. Profit margins as a percentage of sales may run a little thinner. But the profit totals should compare favorably.



MILL PURCHASES

Up 39% Over 1946

HIGHLIGHTS: Dollar volume expected to be held this year—Only 3% of companies supplying textile industry report less business—Highest increases are in spinning, weaving, and knitting machinery purchases—New index figure is 340—Last year's was 244.

By C. W. BENDIGO
Editor, TEXTILE WORLD

A NEW ALL-TIME HIGH in dollar volume of purchases by textile mills was reached last year. TEXTILE WORLD's annual survey of companies supplying the industry shows the increase to be 39% over 1946 for a new index figure of 340. Less than half this increase is due to higher prices, a larger number of units purchased accounting for the greater part.

By agreement with the equipment and supply manufacturers furnishing the figures, TEXTILE WORLD will not divulge specific information beyond stating that greatest percentage increase was in spinning, weaving, and knitting machinery. Smallest percentage increase was in supplies and accessories (not counting auxiliary equipment). Less than 3% of the reporting companies had a lower dollar volume of sales to textile mills in 1947 than in 1946.

The gain in index number for the past year over 1946 was 96 points, whereas the 1946 gain over 1945 was 84. These figures are all based on a 1929 volume of 100 points.

Virtually no reporting companies expect 1948 volume to be less than 1947. For some of the major com-

panies, sales obviously will be greater, based on continuing backlogs of orders and an expected increase in volume if strikes do not again cut into production.

Much more machinery and equipment would have been bought last year had it been available. In this respect, 1947 was similar to 1946. However, 1947 saw many backlogs of orders reduced; and in 1948 many manufacturers will be able to reduce further the time between acceptance and delivery of an order. Mills are expected to respond to this condition and place orders that they have hitherto withheld because they assumed material to be unavailable.

Many mills seem to be taking advantage of their improved financial position to buy much in the way of auxiliary and general plant equipment while waiting for deliveries of production machinery, according to information from suppliers of air-conditioning, materials-handling, lighting, and other equipment.

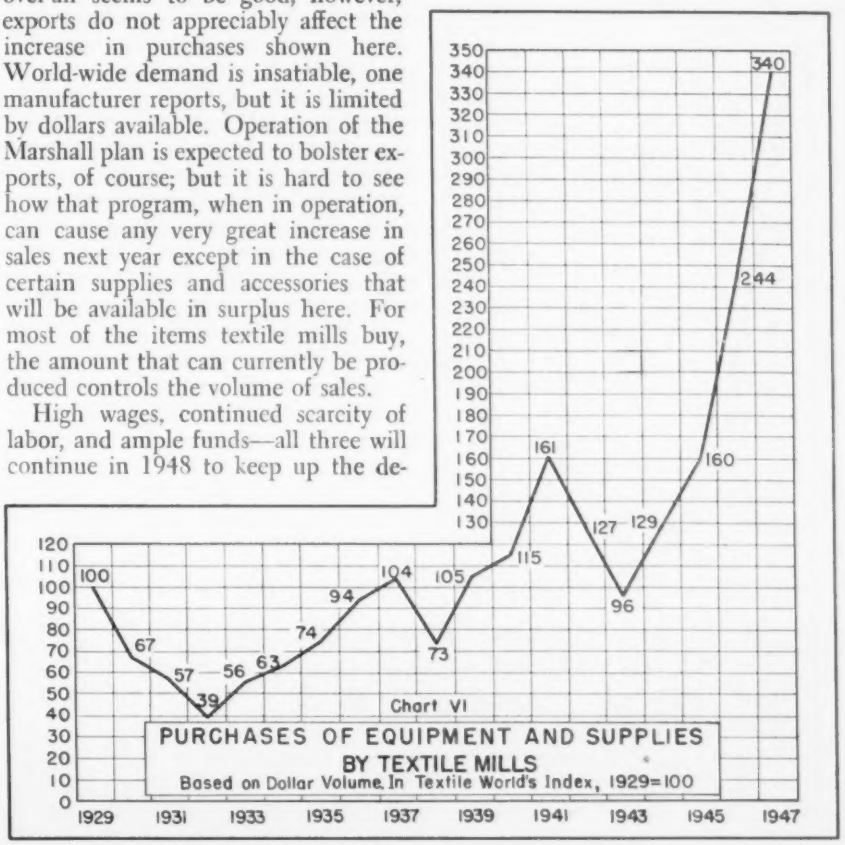
A separate McGraw-Hill survey just completed shows that textile-mill capital expenditures are largely from earnings, and not borrowings—a fact that indicates a very healthy condition.

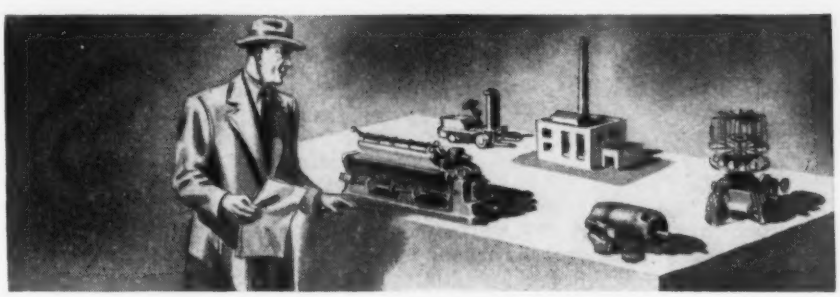
The industry can be proud of the record shown by the TEXTILE WORLD index. It proves that the industry is rejuvenating itself, is taking advantage of good earnings by plowing them back, instead of paying them out as dividends as it reputedly did two decades ago. The industry is going forward as rapidly as supplies of equipment will permit.

EXPORT INFLUENCE. Export of supplies and equipment is spotty, but over-all seems to be good; however, exports do not appreciably affect the increase in purchases shown here. World-wide demand is insatiable, one manufacturer reports, but it is limited by dollars available. Operation of the Marshall plan is expected to bolster exports, of course; but it is hard to see how that program, when in operation, can cause any very great increase in sales next year except in the case of certain supplies and accessories that will be available in surplus here. For most of the items textile mills buy, the amount that can currently be produced controls the volume of sales.

High wages, continued scarcity of labor, and ample funds—all three will continue in 1948 to keep up the demand for equipment and supplies.

As in 1947, but probably to a lesser degree, there will be some adjustments within the industry; but it is unlikely that anything will keep 1948 from being an even better year than 1947.





INDUSTRIAL SPENDING Sets

High Business Activity

HIGHLIGHTS: Outlook for equipment suppliers is relatively bright—Over-all capital expenditures may be 2% less in 1948 than in 1947 which will hardly dent boom — Textile mills may spend relatively more for new machinery than for building construction.

By PETER FRENCH
McGraw-Hill Economics Staff

BUSINESS'S OWN PLANS for spending on plant and equipment assure high business activity for 1948—and a good outlook for the textile industry.

These are the main conclusions of a new, exclusive survey by McGraw-Hill's Department of Economics. Based on personal interviews with top executives, this survey, for the first time, measures thoroughly both business men's plans and the dollars with which they are backing their own forecasts.

Key findings for textile mills are:

1. Over-all activity will be high; 1948 sales will be well above 1947, say key executives whose opinions represent 62% of the industry. On the average, they look for a 20% increase.

2. The outlook for equipment suppliers is relatively bright. The industry's postwar expansion program is well along.

THE OVER-ALL PICTURE. Reports on over-all capital expenditures by all business for 1948 total less than those made in 1947 — $14,900,000,000 planned against $16,100,000,000 invested last year. But a look behind the figures shows a bright picture. Utilities and railroads have increased their budgets, and commercial and miscellaneous businesses will invest about the same in the year ahead as in the year past. Manufacturers report a drop of 20% in their proposed outlays. These shifts make the total of all busi-

ness capital-expenditure budgets 6% lower than 1947 investment.

However, 40% of the manufacturing companies have not announced plans as yet for 1948. That is the main reason why 1948 totals run below 1947. If this group of companies decides to add to its plant and equipment in 1948—as many are likely to do under the pressure of competition—total outlays for expansion by manufacturers will be off only $500,000,000. With that change and with utilities and railroads planning now to spend more, over-all capital expenditures will come to within 2% of last year's. That much of a decline will hardly dent the boom.

Textile company reports show plans to spend only $256,000,000 for plant and equipment this year, as against $325,000,000 last year. But the decline may not be that steep. For one thing, the big drop in estimates is in expenditures on plant—from $86,000,000 spent last year to $40,000,000 budgeted for 1948. The drop in equipment spending is far less—from $238,000,000 in 1948 to $216,000,000 this year. Both of these estimates may be increased as companies that do not yet have plans come to a decision on what they will do. What that might mean is shown in the fact that the companies which spent money last year and have firm plans for 1948 report a decline of only 3% in their planned expenditures for equipment. The distinction between plant and equipment, moreover, may be somewhat misleading because many companies find it hard to draw the line between the two in their own accounting. In accounting, too, much of the mills' outlay for supplies and equipment is charged to current operating costs—and this type of spending will be well sustained in 1948.

Distinctions should be drawn, therefore, between the estimates of capital expansion and the indexes for spending on both current supplies and basic equipment that are reported on pages 104-5. Moreover, the 1947 total on $325,000,000 actual outlay is in close accord with TEXTILE WORLD's November estimate of $414,000,000 for the textile industry's 1947 commitments.

Postwar expansion programs are past the half-way mark in textiles. Only 20% of the companies have completed their entire programs; but, on the average, all companies have added 61% of the new plant and equipment planned. Among all manufacturing companies, 30% have completed their planned expansion; and, on the average, all companies have finished 64% of their programs.

BOOM WILL RUN ON. The reported high-level capital outlays by business remove the last doubts about the general business outlook for 1948. The boom will run on. Exports and inventory accumulations will run smaller than in 1947; but new construction, including housing, will more than make up that drop. Consumers are still in the market for additional durable goods, such as automobiles. Installment credit and backed-up wartime savings will help keep spending

TEXTILES *All Over the World*

Struggle Toward More Output

HIGHLIGHTS: Most countries are pushing textile production as fast as machines, fuel, and number of workers permit—Many centers are still far short of goals—Foreign exchange hampers flow of raw materials.

THE UNITED STATES still holds its war-won position as world leader in textile production. Efforts by several countries among the textile leaders to better their positions have been stymied during the last 12 months by numerous adverse influences including lack of machines, inadequate fuel or power, scarcity of workers, difficulty of getting raw materials through international trade barriers, etc. Foreign exchange matters give promise of remaining troublesome in 1948, not only in relation to the international movement of raw materials and supplies, but also in the sale of finished goods where national economies are built on substantial exports.

The world scarcity of fabrics still persists, and current disparities pose a real problem for governments and their economists to solve in moving supplies from the few centers where they are freely available to areas where there are virtual starvation levels in textiles.

The round-up of textile news from all important foreign centers presented herewith was prepared through cooperation of the correspondents of McGraw-Hill World News located in these various centers. The tabulated data on page 107 are drawn largely from their reports.

North America

CANADA

By Frank Flaherty

Ajustment to conditions of a free economy after a prolonged stretch of government control, and expansion in the completion of many long-delayed plant improvements were features of 1947 in the Canadian textile industry. The government removed price ceilings on wool and wool goods in Apr.], followed up by decontrol of prices of cotton and rayon in September. An import subsidy which had been paid on raw cotton to enable manufacturers to sell under the ceiling was discontinued as of Nov. 1. Toward the year end, export controls were relaxed; and producers were able to secure permits for shipment to any destination almost for the asking. Available estimates indicate operators spent upwards of $65,000,000 on plant expansion and improvement, of which about $20,000,000 went for imported machinery.

MEXICO

By W. B. Giandoni

The Mexican textile industry will have to make decisions in 1948 that may well determine its future. Plagued by the three-headed demon of a world shortage of dollars, 50-yr.-old machinery and methods, and a strong, labor movement, the industry will have to work skillfully to prosper.

The textile-workers union, as with other Mexican industrial unions, is strongly opposed to introduction of labor-saving equipment. Most plants are shackled with labor contracts that limit the number of automatic looms an operator may attend to about 10% of those tended in the U. S.

There is also the problem of a market

high. Demand for non-durables, including textiles and apparel, is still high; and production in those lines was successfully adjusted to market potentials in 1947.

The money to pay for new plant and equipment will come largely from profits and surplus, the McGraw-Hill survey shows. About three companies out of four—74%—will raise all they need from internal sources.

The high level of capital investment will hold despite economic difficulties, the survey shows. If wages rise 15 to 20%, more companies will increase capital budgets than will decrease them. Budgets would be increased in 26% of manufacturing companies, decreased in 18%, and held the same in the others. Among textile companies, 25% would increase budgets and only 14% would cut them following further wage increases.

WILL HOLD TO PROGRAMS. If business should decline 20% this year, 41% of the all-manufacturing group would not change their expansion plans. Only 18% would reduce their programs. In the textile group, an even higher percentage, 62%, would hold their program without change. Only 7% of the industry would cut back. The 41% of the general manufacturing group and 31% of the textile industry that do not have plans for 1948 did not give any answer to this question.

Contracts for new plant and equipment have been signed by only a fraction of the companies that have expansion plans. Among all manufacturing companies, 26% have contracted for their entire 1948 expenditures, but 30% have not signed any contracts. Among textile companies, 32% have their programs entirely under contract, while 42% have no part of them under contract yet.

When postwar expansion is finally complete, it will have doubled or better the 1939 capacity of 32% of the textile companies. Production facilities will be 50 to 99% greater in 10% of the companies; and up to 49% greater in another 34%. There will be no changes in capacity in 24% of the industry. Parallel increases in production facilities are reported by about the same proportions of all manufacturing companies.

Taking a long look ahead, 19% of the textile companies expect to spend more in 1949 than in 1948. About 30% see expenditures going down in 1949, and 20% see them holding about the same. Another 31% do not know now which way capital budgets will be going in 1949.

This survey is based on personal interviews with key executives in scientifically-selected samples of the major United States industries. Interviewing was done by trained members of the McGraw-Hill Research Dept. in all sections of the country. The survey accurately measures the plans of business by the latest opinion-polling techniques. Allowance for error in projecting the results is less than 10%—and that's not enough to affect the conclusion that the boom will roll on in high this year.

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for Mexican exports; for Mexico, with high production costs even by U. S. standards, has only high-price, lower-grade fabric to sell.

Domestic use over the next few years is hoped to take up some of the slack resulting from the postwar drop in foreign business.

THIS TABLE is based upon the most recent data available, received for the largest part since Jan. 1 from McGraw-Hill World News correspondents in the principal countries of the world. Metric units have been converted to English units and effort has been made to indicate by footnote where other than the American custom is followed. For the most part, the figures are for 1947. In some instances, they are estimates based on reports for a portion of that year; in others, they represent the latest year for which sufficiently reliable data could be obtained for presentation.

WORLD TEXTILE POSITION

	NORTH AND SOUTH AMERICA						ASIA				EUROPE									
	U. S.	Canada	Mexico	Brazil	Argentine	El Salvador	China	India	Japan[8]	Turkey[4]	U. K.	France	Italy	Germany[9]	Switzerland	Holland	Spain	Czechoslovakia	Sweden	Australia
COTTON YARN																				
Spindles (mil.)	23.8	1.3	0.9	3.1	0.5	0.05	4.5	10.0	2.9	0.09	34.5	8.4	5.1	5.9	1.2	—	2.0	2.1	0.5	0.2
Production (mil. lb.)	4089[10]	177	11	327	154	6	720	1350	255	61.6	650	440	243	135.9	48.4	—	—	128	52.8	15.7
Imports (mil. lb.)	0.7[10]	12.6	—	—	1.0	0.9	—	0.2	—	24	9.6	8.8	—	—	129	11.2	—	—	7.7	3.8
Exports (mil. lb.)	92.8[10]	—	1	0.7	—	—	8.8	—	29.1	—	23.4	9.0	37.4	—[7]	1.0[7]	0.3	—	—	—	—
COTTON CLOTH																				
Looms (thous.)	459	20.7	34.6	92	10.0	1.0	76	200	136	2.4	498	200	130	144	20[3]	—	70	90	7.2	2.7
Production (mil. yd.)	9540	260	103[1]	1137	178[1]	22.7	2307	3800	673[2]	71.5	1600	284[1]	605	0.2[2]	102	98[1]	—	110[1]	39.6[1]	20.3[2]
Imports (mil. yd.)	12[2]	78[1]	6[1]	1.0[1]	11[1]	2.0[1]	4.4	15	—	19.2[1]	149.8[2]	6.6[1]	—	—	11.5[1]	4.8[1]	—	—	14.3[1]	114.6
Exports (mil. yd.)	1476[2]	15	16[1]	37.2	—	0.9	10.4	375	434	—[6]	533.4[2]	83.6[1]	55[1]	—[7]	3.7[1]	12.1[1]	—	—	0.4[1]	7.0[2]
WOOL YARN																				
Spindles (thous.)	3341	228	106	89.5	250	—	78	87.5	520	26	—	2700	1200	2140	329	—	488	234	450	408
Production (mil. lb.)	624	58.4	0.5	—	60.5	—	2.7	12.5	51.5	14.7	144	172	—	47.9	—	—	—	44	44	48.6
Imports (mil. lb.)	0.6	4.7	—	—	1.7	—	—	2.5	—	23.0	5.4	0.4	0.2	—	7.1	14.2	—	—	8.8	—
Exports (mil. lb.)	4.5	—	—	—	—	—	—	—	0.4[1]	—	10.0	23.1	3.5	—	0.3	0.8	—	—	—	1.6
WOOL CLOTH																				
Looms (thous.)	38.7	3.5	1.8	4.0	4.1	—	0.1	23.8	11.0	0.3	—	45	18	41.3	2.6	—	20	14.8	7.3	5.0[9]
Production (mil. yd.)	523	28	5.8[1]	6.0	48.4[1]	—	0.2	15[1]	34[2]	5.5	226	145[1]	—	—[7]	—[7]	36.9[1]	—	48[1]	33.0[1]	41.3[2]
Imports (mil. yd.)	2.8	10.7[1]	0.5[1]	0.7[1]	0.8[1]	—	0.3[1]	10	—	0.3	6.7[2]	3.3[1]	0.8	3.5	3.7[1][7]	2.6[1]	—	—	5.5[1]	1.6
Exports (mil. yd.)	18.8	—	—	—	—	—	—	—	1.2	—	73.8[2]	19.8[1]	11.4	—	0.4[1]	2.8[1]	—	—	0.4[1]	4.0
SYNTHETICS (Filament)																				
Production (mil. lb.)	717	20	—	19.8	9.9	—	—	—	14.5	—	116.4	79.2	165	24.2[5]	—	—	18	10	4.0	—
Imports (mil. lb.)	—	9.7	—	1.1	2.4	—	—	1.8	—	—	1.9	3.5	—	—	—	0.9[6]	0.2	—	5.5	5.5
Exports (mil. lb.)	—	0.4	—	—	—	—	—	—	14.5	—	15.0	5.9	28.6[6]	—	—	13.6[6]	—	—	—	—
SYNTHETICS (Staple)																				
Production (mil. lb.)	209	—	—	0.8	0.8	—	—	—	17.5	0.5	83.0	48.4	33	35.9[5]	—	—[7]	15	33.4	26.4	—
Imports (mil. lb.)	43[7]	13	—	—	1.3	—	—	—	—	—	—[3]	0.4	—	—	—	—	—	—	—	0.1
Exports (mil. lb.)	—	—	—	—	—	—	—	—	7.0	—	—[3]	6.8	—	—	—	—	—	—	11.0	—
WOVEN SYNTHETICS																				
Production (mil. yd.)	1473	80	4.8[1]	142	8.8[1]	—	0.3	—	—	—	360.4	—	—	—	—	15[1]	—	—	6.6[1]	—
Imports (mil. yd.)	—	5.7	—	0.2[1]	1.1[1]	0.5	—	5	—	—	14.7[2]	1.3[1]	—	—	—	2[1]	—	—	2.9[1]	45.0
Exports (mil. yd.)	—	8.7	—	—	—	—	—	—	3.0	—	94.5[2]	13.9	24.2[1]	—	9.5[1]	1.4[1]	—	—	—	—

[1]Pounds. [2]Square yards. [3]Included with filament. [4]Machinery data for State owned plants only. [5]German estimated capacity is 138,000,000 lb. filament and 319,000,000 lb. staple. [6]Includes staple. [7]Includes filament. [8]Japan reports only operable equipment; owned equipment much higher. [9]German figures are for American-British zone. [10]Estimated

Hand looms are not included above—they are important in such countries as India, China, and parts of South America.

South America

ARGENTINA

By John Wilhelm

The Argentine textile industry has had a confused though nonetheless busy year. Much new textile machinery has been imported both from the United States and Great Britain, an more is on the way. Governmental actions during the year have considerably affected the textile picture, particularly as follows:

1. All imports into Argentina were halted in August, 1947, including the usually heavy imports of textiles (over 11,000,000 lb. of cotton cloth alone during the last year); and these had not been resumed at this writing. There is a resulting scarcity of textiles.

2. The Peron government began a nationwide movement to halt the rise of textile retail prices and ordered cutbacks.

The textile industry is expanding considerably; and ten new cotton-yarn mills are under construction, most of them with less than 5,000 spindles. There are two new worsted mills under construction. Most of the rayon mills are expanding, while the Brazilian firm of Mattarazos Bros. has begun construction of a rayon plant at Zarate. Its production, it is said, will go a long way toward making Argentina independent of further imports of this material.

Senior Miguel Miranda, president of the National Economic Council of Argentina, has recently stated that Argentina, which now has an estimated 480,000 cotton spindles, will have 600,000 by the end of 1948.

BRAZIL

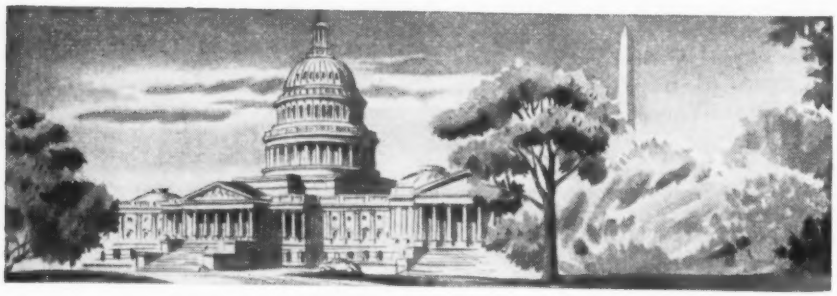
By Henry W. Bagley

Brazil's textile industry, in the words of Guilherme de Silva Filho, president of the official Textile Executive Commission, "is the principal Brazilian activity."

He put Brazilian textile production at 1,320,000,000 yd. per year, worth $450,000,000; whereas he said coffee production, long Brazil's economic backbone, represented only $300,000,000. Cotton-textile production totalled 1,147,440,474 yd. in 1946, with about 235,000 workers employed; all the other textile industries together—silk, rayon, wool, jute, and linen—had about 50,000 workers.

World War II made Brazil a principal supplier to other Latin-American countries for a time. In 1945, Brazil exported 266,200,000 yd. of cotton textiles. Early in 1946, with the country in the throes of inflation, the government banned textile

(*Continued on page* 196)



Controls Are Coming Up Again in WASHINGTON

HIGHLIGHTS: Pressure of special demands for export seems to make likely some form of allocation — FTC again active — Government research programs seek many fundamentals.

From McGraw-Hill Washington Office

THE PROSPECT FOR 1948 for the textile industry is much the same as for industry generally: More, not less, Washington influence on business trends; and more, not less, direct government intervention in business through controls.

While the last year has seen the end of most war-time controls, there is great likelihood that the session of Congress now gathering momentum will be a six months' battle royal over (1) how much and what kind of aid to give Europe and China, and (2) how much and what kind of controls will be needed at home to hold down the inflationary impact of Marshall-plan aid. The export program will be added to a record domestic demand.

Many textile men in Washington believe that Congress will give the Administration broad powers over exports. Power to allocate materials domestically may cover such critical items as steel and wheat, and possibly, later on, cotton.

TRADE RULES. Mainly through its Trade Practice Conference Div., the Federal Trade Commission has in various stages of completion comprehensive trade-practice rules for various branches of textile industry, some of which set up product or process standards. Rules now in process cover: shrinkproofing of wool, mothproofing of fabrics, waterproofing of fabrics, rayon and silk converting, protein-base fibers, and hand-knitting yarns.

Most of these fair-trade-practice rules call for the organization of a permanent industry advisory committee to keep an eye out for infractions of the rules that open the way for unfair practices.

Government research has been stepped up. Funds given the Department of Agriculture last year for research on marketing and utilization of agricultural products are financing studies into both cotton and wool. Cotton projects are aimed at learning: What happens when the cellulose in cotton fiber oxidizes. . . . What new products can be based on cotton bonded with resins or given other chemical treatments. . . . How to bring cotton-fiber production into line with specific mill requirements. Wool studies seek to determine what chemical and physical treatments can be used to modify the fiber characteristics and to study the feasibility of skirting, sorting, and scouring domestic wool at western centers.

At National Bureau of Standards, studies are under way on the chemical changes that take place when cotton and rayon are exposed to light, heat, and bleaching agents. New equipment now in use for measuring the surface areas of textile fibers may have direct bearing on drawing, spinning, scouring, bleaching, dyeing, and finishing processes, all of which depend on surface properties of the fiber.

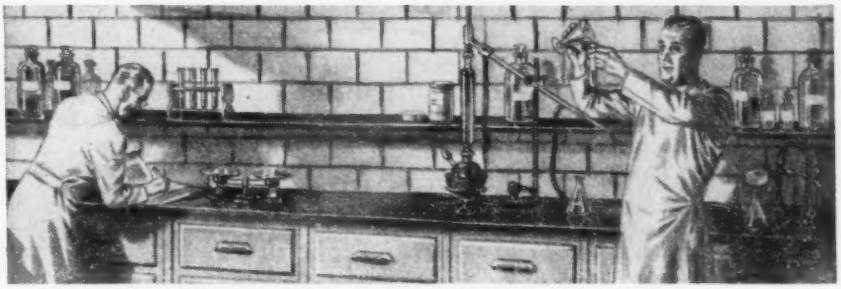
TARIFFS. The new tariff rates on fabrics and fibers, announced in November, are likely to end the administration's chances of getting through Congress a renewal of the Reciprocal Trade Act—the law under which the new rates were negotiated at Geneva. However, even though the Reciprocal Trade Act expires, the new tariff rates will remain in effect until such time as Congress itself passes a new tariff law. In the meantime, Congress is likely to approve the charter of the new International Trade Organization, which, in itself, would be a step toward freer trade and lower tariffs.

The labor outlook is for no changes in the Taft-Hartley Act, but changes in the Wage-Hour Act may get through both houses, although the President is likely to veto it.

The Taft-Hartley law slowed down the CIO's "Operation Dixie." Enthusiasm for the organizing campaign

generally has tapered off, even though the CIO convention went on record to continue the special drive for another year.

The first forms for the long-awaited Census of Manufactures will be received by textile manufacturers sometime this month (February). It is the first such census since 1939. First figures for specific industries will be released beginning in mid-summer, and the first statistics on all manufacturing will be available by the end of this year.



RESEARCH Strides Ahead In All Textile Branches

HIGHLIGHTS: Numerous developments evidence past research—Laboratory holds promise of many more for future—New and improved fiber qualities are sought — Research bodies have added to their personnel.

By JULIUS B. GOLDBERG
Research Director, J. P. Stevens & Co.

CONTRARY TO THE BELIEF held by practical mill men that research achievements in textiles during the past year have been of minor importance, one finds, in retrospect, a vast number of developments which are positive evidence of the textile industry's ability to make technological advances in step with other major industries.

Inasmuch as research includes all investigations in every branch of science and engineering to develop new products and methods or to improve existing ones, it is evident that the field is enormous. The changing of the shape of a shuttle or the design of a radically new finishing range are alike the results of research.

In considering the standing of 1947 in noteworthy accomplishments, it is significant that over 150 reports of new or improved products, processes, and equipment have been published during the year and at least an equal number of United States patents were issued on items directly associated with the textile industry. Most of these items are examples of research results, and the procession shows no signs of diminution.

SYNTHETICS. Apart from the introduction of Vinyon N and from laboratory yields of yarns derived from eggs, chicken feathers, or the very versatile corn, which we eat and sometimes drink, there were no new synthetic fibers introduced to the textile industry during 1947.

At a meeting of the British Textile Institute, it was announced that wool waste had been successfully dissolved and regenerated as a new fiber. This technique is not novel, similar practice having been employed in Japan on silk waste years ago, but the end-product left much to be desired in the attempt to simulate the natural protein fibers.

Domestic laboratory tests were published on the Italian Plumital, an animalized viscose containing protein derived from chicken feathers. Here again there is a lack of novelty, for modified viscose-type yarns have been known for some time, as for example, Courtaulds' Rayolanda, or the prewar Italian Cisalfa or Afcasene. The synthesis of giant protein molecules by research workers at Harvard University stimulated the imagination of more newspaper editors than textile scientists in predicting the use of similar technique to manufacture new fibers.

Further progress was reported in the pilot-plant manufacture of a peanut protein fiber, Vicara, by Virginia-Carolina Chemical Co.; similarly in Drackett Co. soy-bean fiber, in Vinyon N with improved heat resistance, and in the Du Pont company's newer offsprings, Fiber A, polymethacrylonitrile, and Fiber V, said to be the equivalent of the Imperial Chemical Co. Terylene announced in 1946. Sample lots of saran staple have been offered for experimental purposes. American Viscose Corp. went into regular production of a permanently crimped viscose staple fiber; and Hartford Rayon Corp. introduced Featheray, a bulky, hollow-filament-type viscose yarn.

Novel machinery for the manufacture of viscose rayon yarn was described by Dobson & Barlow, the English firm which is building equipment for the Nelson continuous-spinning process. (American rights controlled by the Verney Corp.) In this country, a Philadelphia engineer has outlined a continuous process with claims that his method of treatment permitted great savings in space, investment cost, chemicals, and water. An automatic rayon-spinning machine exhibited in Moscow was said to produce rayon yarn in five minutes from the time of the addition of a "special solution."

Among the more interesting patents issued related to synthetics were those covering the use of infrared heat in spinning operations, the extrusion of hollow-filament vinyl yarn, the production of colored glass fibers, the wet-spinning of cellulose-acetate rayon, and the spinning of yarns of two or more components, giving novel laminated or core-yarn effects.

NATURAL FIBERS. In the field of vegetable fibers, there has been little innovation to arouse more than passing interest. A British cotton expert has tested the planting of colored cotton in Egypt, which brings to mind the raising of colored cotton, and not all red, in Russia. The Syrian milkweed-plant fiber in lengths up to 2 in. was considered useful for blending with other fibers, and in France plans were revealed for developing broom fiber for use alone or in blends. Ramie continued to break into print at irregular intervals, but actual poundage of textile fiber used in the United States last year was negligible. Government scientists have been at work on cotton and wool, not only to improve the characteristics of what is grown but to modify those characteristics in ways which adapt the fibers to particular end-uses.

NEW PROJECTS. The Textile Research Institute and Textile Foundation reported progress in continuing their studies of the effect of sizes on yarn resilience, measurement of chemical and physical damage to fibers, mechanical properties of fibers, cellulose and starch properties, and moisture

absorption and swelling of fibers. Projects carried on at the Institute of Textile Technology included general research on warp sizing, studies of stream sanitation and pollution, synthesis and evaluation of dyes, biological deterioration of textiles, detergency, methods of heating and drying textiles, aerodynamic opening and cleaning of baled cotton, fundamental studies of cellulose and starches, and many others. The research committee of the American Association of Textile Chemists & Colorists concentrated its efforts on problems pertaining to dyestuffs fastness to washing and light, detergency, deterioration of textiles, dimensional changes of textiles, and testing procedures and apparatus.

In the field of dyeing, it is reasonably certain that there will soon be acetate dyestuffs which no longer "blush" at the sight of atmospheric gases. Some may show slight changes in depth of shade, but they will be a definite improvement over many previously used dyestuffs. Others may incorporate inhibitors to accomplish the same resistance to change of shade, eliminating the need for an extra treatment by the dyer. Also in acetate dyeing, further commercial applications of vat dyestuffs without saponification is to be expected.

If wood-pulp cellulose continues to rise in price, there is some chance that rayon manufacturers will find available a new cellulose source at lower cost.

Multifilament vinylidene-chloride yarns are making their appearance in small quantities for further development by the weaving trade, and industrial users of some of the high-polymer yarns are likely to find increased yarn production a stimulus to expanded uses. Polystyrene fibers are likely to emerge from the laboratory stages within a year or so.

In the equipment field, it is probable that more consideration will be given to hot-air slashers. Progress may also be expected in machinery improvements to handle longer wool fiber by the American system, in gilling operations, and in blending equipment.

With plans announced by the International Harvester Co. to manufacture 1,500 additional spindle-type cotton pickers, it is anticipated that the mechanization of cotton harvesting will show more rapid gains in the coming year.

Large additions have been made to the staffs of research workers at the Institute of Textile Technology, the Textile Research Institute, and the British Shirley Institute. Great strides are reported in raising funds for American textile schools and the several foundations. The teaching staffs and facilities of all were appreciably strengthened. Among the new larger research laboratories established during the year were those of the Deering Milliken Research Trust in Connecticut, and the Celanese Corp. of America in New Jersey. Advancement on all frontiers of research was made by the many federal and state agencies, as well as by the educational institutions especially equipped for such study.

Bonded-web materials again captured the fancy of the writers, if not the consumers, in their visions of textile materials produced without the use of conventional weaving or knitting machines. Small inroads were predicted in the fields of disposable household towels, napkins, tablecloths, and diapers; but uses in tea bags and industrial fabrics seemed to be receiving greater acceptance.

Patents relating to improvements in textile manufacturing machinery included means for controlling loom warp-beam tension, tow-to-top apparatus, a synthetic cot incorporating particles of cellulose sponge, equipment to control card-web weight, loom-reversing mechanism, textile bobbin-marking apparatus, and a method of controlling thread tension by vibration-rate control.

Notable in the trend to further research on textile manufacturing operations was the organization in England of a group of cooperating companies to conduct long-range fundamental research.

DYESTUFFS AND FINISHES. Although no revolutionary new dyestuffs were marketed, current intensive study of application methods and of the surface characteristics of fibers points to ultimate better understanding of the dyeing process and to more satisfactory products when the fundamental research findings are translated into processes and methods.

Not to be outdone by the famous "Irium" which adds to a certain toothpaste's whitening power, if not to the radio-listener's pleasure, the use of a fluorescent-type dyestuff which gives more brilliant white effects on cotton or rayon fabrics was extended to the ultimate consumer's household by its incorporation in one of the popular domestic detergents. Adding to the attractiveness of what is left of the modern woman's swim suit, a California manufacturer announced the "Coldfire" process for the application of colors to synthetic materials used for such apparel, giving up to ten times the normal color brilliance with increased visibility at great distances. This was apparently a natural outgrowth of the use of fluorescent-dyed acetate fabrics by the Signal Corps during the war. The figures in the suits are still probably a more important factor in stimulating attention than are the suits' sales figures. In considering comfort of summer clothing, a report on a study of garments concluded that those whose colors afforded high radiant energy reflectance were substantially cooler than those with low reflectance.

Spurred by the passage of the California Inflammable Fabrics Act, as well as pending federal legislation, several finishers announced flame-resistant finishes with varying degrees of durability. In addition, there were numerous flame-proofing patents issued during the year covering products and processes; considerable research is still being directed toward this problem.

Crease-resistance of certain cotton fabrics by the use of a melamine formaldehyde resin was announced as an accomplishment of the Dan River Mills.

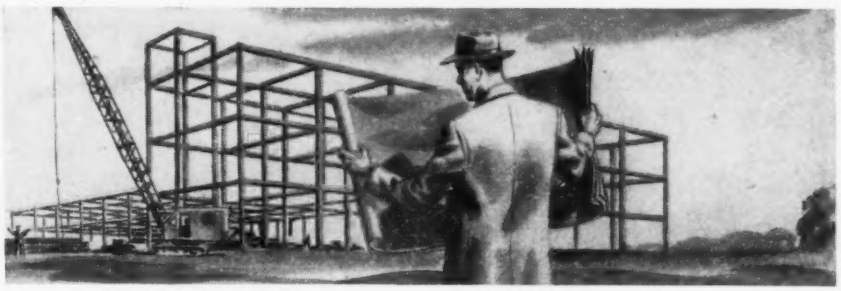
In keeping with the trend to give the consumer washable fabrics which would not shrink, stretch, or felt during ordinary laundering operations, shrinkage control of both rayon and wool fabrics was spot-lighted continuously. Melamine-formaldehyde resins and thermoplastic rubber-type dispersions were promoted for use on woolen goods in competition with various of the wet-chlorination processes, several of which showed definite improvement over older methods in reduced damage to the fiber, little change in hand, and ease of application.

On all-rayon fabrics, the Cluett, Peabody & Co. Sanforset process, introduced in 1946, continued to make the biggest head-lines and perhaps the biggest head-way. Claiming applicability to cotton mixtures as well as to all-rayon fabrics, the Alrose Chemical Co. added the Definized G glyoxal process to its earlier Definized caustic-soda treatment. Other companies began to exploit the use of ketone aldehydes, similar to the British Imperial Chemical Co. acetone-formaldehyde treatment. A British patent was issued to Cluett, Peabody & Co. on the use of glyoxal to effect crease-resistance in rayon fabrics.

Subjecting textiles to the "shakes" without alcoholic stimulus is a new technique recently called to the textile scientist's attention. A recent patent covers the use of high-frequency vibrations applied to dye baths as an aid to dyestuff penetration. Some information was also disclosed on the use of high frequency in baths to aid soil removal, and preliminary research indicated that ultrasonic dirt removal might even be accomplished in air rather than in liquid baths. In England, a novel use was devised for Positex, the positively charged rubber latex

introduced late in 1946 and recommended for imparting tensile strength to wool fibers and improving their wear resistance. By printing patterns with this material and subsequently napping the goods, embossed effects were obtained on several types of fabrics that are so adaptable.

Chemical treatment of cellulosic materials at high temperatures to increase water absorbency was the subject of one patent issued to an American mill which proposed to use this method on toweling.



Flexibility Is Key to Best ENGINEERING PRACTICE

HIGHLIGHTS: Current high construction costs have induced planning to make possible future changes economical — Efficient layout and handling equipment can save on floor space—Insulation important to lower cost of operation — New materials and better design evident in many quarters.

ENGINEERING in the textile industry during 1947 was characterized by closer study of economy in labor and space to compensate for higher wages and higher building costs. Forecasting improvements and anticipating future changes to reduce obsolescence and the cost of alterations and replacements has become more and more important. Everything indicates that flexibility and economy of space are prime requirements of plant layouts and structures. Flexibility includes the selection of equipment as well as the design of the building. Quick changes will be necessary to take advantage of improvements which are not yet perfected but which can be anticipated. These observations point to the continued use of one-story buildings wherever possible and to machinery layouts which can be expanded without disturbing previous installations.

FIELDS OF ACTIVITY. The cost of new construction and the scarcity of construction materials, combined with the long time required for machinery deliveries, has prevented building new cotton mills and confined additions and improvements to the essentials of plant maintenance and production requirements. The construction of new finishing plants, rayon yarn plants, rayon weaving plants, woolen and worsted mills, and knitting mills has been carried out on a larger scale for a variety of reasons. Some of these reasons are that finishing capacity, especially in the Southeast, was not sufficient to serve mills and markets within the economical shipping radius. New knitting mills have sprung up where labor conditions have been favorable; but another reason for expansion of the knitting industry has been the need to accommodate large and improved full-fashioned hosiery units which could not be properly housed in older buildings. The increased demand for new and improved synthetic fibers has called for more yarn production and more weaving capacity in those fields.

Cotton mills have increased capacity more by the installation of improved machinery than by building expansion. Old buildings have been repaired, remodeled, and enlarged to accommodate additional equipment and improved machinery layouts.

FLOOR SPACE. With the cost of building about twice what it was before the war, it is out of the question to spend money for unnecessary floor space. Improvements should be anticipated and provisions made for changes in machinery layouts and for the installation of new machinery without building alterations. Correct column spacing is essential in a well-designed building. The ideal building would have no columns. This condition can be approximated by reducing the number of columns to the minimum consistent with economical construction, and by spacing them where they will not interfere with productive operations.

Another consideration is the effect of column spacing on the total amount of floor space. It may be found that a somewhat wider spacing than what is indicated for the minimum cost per square foot of floor space will result in a reduction in the total floor space more than enough to compensate for the higher unit cost. After the machinery arrangement has been perfected, additional space required for handling materials can be reduced by proper application of auxiliary materials-handling equipment, some of which saves floor space by utilizing head room.

At the points where more space will be required, the building should be designed with temporary walls so that additions can be made without costly alterations. Openings in buildings must be located to provide for removal of equipment and installation of new equipment without inconvenience and without damage to the building.

INSULATION. Some of the problems presented by need of close control of air conditioning have been solved by the use of windowless buildings. At the same time, this has introduced a question as to the effect of shutting out natural daylight. Some workers have reacted unfavorably to the windowless feature, especially in small plants where the effect of being shut in is much more obvious than in larger plants with more head room than is found in the average textile mill.

A compromise which may solve the problem for windowless buildings is the use of glass blocks or double-glazed windows. These do not provide so much insulation as solid walls, but they have been found desirable where the absence of daylight has an unfavorable effect.

Improvements may be expected in the insulation of window frames and in joints between windows, glass blocks, and walls, which will allow the admission of light with less sacrifice of insulation.

Increased costs have made improved insulation a good investment to reduce the cost of heating and air conditioning and to promote constant atmospheric conditions within the building.

The effect of color on the comfort

and productivity of employees has been recognized, and the development of this feature has been encouraged by the manufacturers of building materials and paints, as well as by engineers and manufacturers. It is one of the things which, along with efficient lighting, has increased the efficiency of floor space. Some of the new materials, as well as refinements in building design, have simplified structural assembly and have reduced the number of trades required in erection. An important element of construction costs is the number of operations which require separate trades or organizations. To reduce this number not only will simplify the management of the project, but also will reduce the time lost and the consequent cost.

FLOORS. New materials and better design have improved both appearance and utility of floors. The Kalman floor finish is still popular for heavy trucking. Magnesite floors provide resilience. Where workers stand, wood strips set into concrete on a waterproofed base are economical and effective. Parquetry wood floors are also used to advantage. Finishing plants require a variety of acidproof and waterproof finishes to insure low floor-maintenance and good working conditions.

Tile walls, always desirable for cleanliness, sanitation, and low upkeep, have come into more general use as operating costs have increased and as the importance of good working conditions within the plant have become more evident.

Higher lighting intensity with fluorescent fixtures is the result of improved equipment and closer study of requirements. Lighting is supplemented by intelligent use of color to give maximum reflection and to prevent glare.

Foamglas is one of the effective new insulating materials. A typical low-cost insulated wall consists of 4 in. of face-brick backed up with 4 in. of cinder block, 2 in. of Foamglas and 4 in. of cinder block plastered inside.

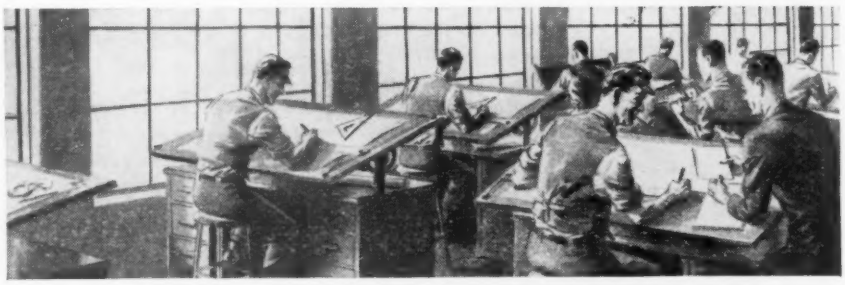
Acoustically treated, suspended ceilings with space above for ducts, piping, and conduits are typical of air-conditioned textile plants.

Zoned control of air conditioning in departments where a variety of products require individual treatment in the same room is a feature of the modern plant.

Increased use of refrigeration in air conditioning is made necessary by the need for closer control of temperature and by the limited supply of natural cold water.

High labor cost, new products, and the necessity for closer inventory control and better inspection have led to improvements in warehouse facilities, involving modern materials-handling equipment, air conditioning, and improved illumination.

Multi-story mills have made alterations to eliminate excessive handling of materials between floors and otherwise to meet the competition of one-story mills.



MACHINERY DEVELOPMENT

Sets Record Pace

HIGHLIGHTS: New machines and improvements offered at unprecedented rate—Modern engineering techniques lead development — Elimination of human element is primary objective—Several new machinery manufacturers enter field.

By WILLIAM A. NEWELL
Assistant Editor, TEXTILE WORLD

THREE MAIN INCENTIVES—reduction of expensive hand labor, increase of production, and desire for immediate machinery deliveries—have keynoted developments in textile machinery for the past year and will probably continue as important influences in the future. The incentives have stimulated increased development of continuous processing, design of multi-purpose machines which either combine or eliminate operations, increased use of process controls, adoption of modern engineering techniques including use of lifetime-lubricated bearings and of new structural materials. The needs of the industry have also resulted in entry of new machinery manufacturers, introduction of new lines of machinery by old manufacturers, mergers of manufacturing concerns, production of entire new machines by former manufacturers of parts and supplies, increased flow of Swiss and other foreign developments, and subcontracting of parts and entire machines by manufacturers.

ENGINEERING. Improvements in engineering techniques have exceeded development of equipment, mainly, perhaps, because established manufacturers are busy on orders for current types. Refinement of these existing lines has not stopped, however; and there has been increased use of new materials and methods. As a labor- and wear-saving improvement, lifetime-lubricated bearings have been installed at many points, as in the lap pin, stripper-comb cam roll, and spinning-frame cam unit introduced by Precision Gear & Machine Works. Ball-bearing top rolls for spinning frames were announced by Watson & Desmond, and it is known that at least two other suppliers are working on other types. Oilite is being used by Whitin Machine Works on main bearing points on the new Model L card and also in bolsters. Nylon bolsters made by Watson & Desmond are being tested in many mills, and travelers of nylon were introduced by Clark Thread Co. The use of extruded aluminum has increased; it is found in card worker-and-stripper cylinders made by New England Machine Works, warp-beam barrels introduced by Aluminum Co. of America, and ring and spindle rails, roller beams, and other parts for machinery made by H & B American Machine Co. Stainless steel has been increasingly used where resistance to corrosion is required. The trend toward heavier construction for lessening of vibration was evident in Whitin's new Model L card, the new Robaczynski tricot, and other machines.

The desire for elimination of the human element in operation sequence and maintenance of quality has re-

sulted in the further development and increased use of automatic controls, as cyclic-control instruments, for regulation of sequences of operations. The Magnepoise, an electronic device for maintaining uniformity of the feed to wool cards, was announced by Arthur Russell Engineering Co. A machine which mechanically makes sandwich blends of fibers was introduced by Proctor & Schwartz.

The past year has seen greatly multiplied application of variable-speed drives, usually coupled with a speed- or tension-control instrument, to textile machines.

NEW MANUFACTURERS. The entry of new concerns into textile-machinery manufacture both from fields unrelated to textiles and from the textile mill-supply field provides an interesting development which will doubtless continue. Loom manufacturing claims the largest number of new entrants so far, including Warner & Swasey Co., which is developing a modification of the Swiss Sulzer loom, the H. W. Kellogg Co., Coastal Machine Co, and others (reportedly). Three new manufacturers have entered the woolen and worsted machinery branch of the industry—McGlynn Hays Industries, Inc., with its new French-type worsted spinning frame; New England Machine Co., and Newport News Shipbuilding & Dry Dock Co., producing wool cards.

West Point Foundry & Machine Co., long-time manufacturers of creels, beamers, and other units and accessories for slashers, is in production on its new 3-cylinder slasher.

Cook-P & N Machine Co. has introduced several new finishing machines, among them an electronic detwister, a detacker, a stainless-steel slack washer, and an ager. Duesberg-Bosson of America, Inc., in addition to its Peralta burr crushers, is now manufacturing an intermediate feed and plans further expansion into wool processing equipment. Wiesner-Rapp Co. has presented a line of finishing-range units.

Many new products have been announced by established manufacturers. It is generally felt by men in the industry that more machinery is being offered to the textile industry now than at any other period in their memory. One machinery manufacturer recently stated, "Two years ago we were not making 90% of the types of equipment that we are making now."

YARN PROCESSING. Prominent among developments in carding and spinning machinery are the experiments with direct-spinning equipment by Medley Machine Co. and Saco-Lowell Shops. These machines break rayon tow and spin yarn in a single operation. A spinning frame developed by Avondale Mills has practical drafts up to 300 and spins yarns as fine as 40s from drawn cotton sliver. A similar Italian machine, the Nastrofil, employing six lines of drafting rolls and said to draft up to 250, was recently introduced in this country.

The Barmag 2-for-1 twister was displayed in this country, and experimentation on this type of machine is continuing. Disclosure was made of features of the Saco-Lowell 2-for-1 twister, still in the experimental stage.

Several new spindle adapters which make use of the full traverse of the rail on spinning frames have been announced. Among them are those made by Sonoco Products Co. and F. L. Regnery Corp. The latter company has also introduced an aluminum bobbin for use with the adapter.

Considerable interest has been aroused in solvent scouring of wool. A machine invented by M. T. Hoffman, using trichlorethylene, was said to clean 1,000 lb. of wool per hour. Smith, Drum & Co. is known to have a solvent-scouring process under experiment.

The fiber conditioner introduced by B. F. Perkins & Son, is reported to disintegrate effectively foreign matter in all fibers. A different type of burr-crusher, the Burrcoa, made by General Electronics Sales Co., depends on two separate crusher rolls operating in contact with a single center roll.

A new-type static eliminator, the Ionotron, employing a strip of radioactive material was offered by U. S. Radium Corp.

An inexpensive, self-contained, tension compensator, designed to produce a constant-output tension in winding, spinning, or twisting, was introduced late in 1947 by Walter Kidde & Co.

WEAVING. Significant warp-preparation developments include the use of hot-air slashers both in this country and in England. Zellweger, Ltd., a Swiss concern, has introduced a warp-tying machine, a handing-in machine, a reeding machine, a drop-wire-selecting machine, and a drop-wire-dropping machine. The introduction of a continuous-dyeing slasher by United Steel of America, Inc., marked a labor-saving advance, especially for plants processing solid-color warps.

Several new looms are in development, as previously stated, but delivery dates on these remain indefinite. Some shuttleless machines have been developed for narrow fabrics, making use of latch needles to form the selvages. Elastic fabrics are being woven successfully at 1,000 to 1,500 p.p.m. on a loom developed by J. W. Wood Elastic Web Co. for its own use.

Some improvements in loom parts and assemblies have been announced —the larger-filling-package shuttle introduced by Southern Shuttles which uses a package ¾ in. longer with only ¼-in. increase in shuttle length, the low-groove shuttle which is said to lessen jerk-ins, the Zama (Swiss) shuttle buffer, and nylon-covered dobby cords which are said to be stronger than steel alone.

A bobbin-refinishing machine developed by J. M. Nash Co. automatically sands and burnishes the barrels and flanges of bobbins at the rate of 10 per min.

KNITTING. Knitting machines for many diversified uses continued to be introduced. Supreme Knitting Machine Co. announced a "floatless" pattern-wheel machine, a loop pattern-wheel machine for rayon pile fabrics, a pile-fabric knitter for overcoatings, and a 26-in., 96-feed machine especially designed for knitting wide-striped jersey at high speed.

Two simplex tricot machines, a double-knit machine by International Tricot Machinery Corp., and one by Robert Reiner Inc., were announced. An electronically controlled 400-needle machine for seamless hosiery was introduced by Fidelity Machine Co. For sample tricot knitting, a table-model tricot knitter was developed by Aveco, Inc. Robert Reiner, Inc., also introduced the "Twin Knitter," a 2-head full-fashioned machine, and later the TK-2, a 4-head machine. The development of a tricot machine rounded out the line of equipment made by Robaczynski Machine Co, and Whitin Machine Works offered a new 168-in. tricot knitting machine.

FINISHING. The use of finishing ranges has been extended to include knitted fabrics, and further developments now in progress promise to make possible the continuous processing of woolen and worsted fabrics.

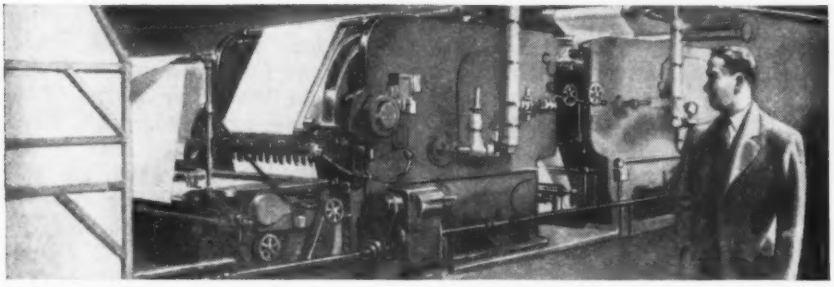
Rodney Hunt Machine Co. has developed a full new line of stainless-steel machines featuring "curve-of-strength" design, and pneumatic pressure rolls.

A slack dryer for use in a shrinking range which permits shrinkage

in both warp and filling directions has been announced by Proctor & Schwartz. Another recent Proctor dryer, the suction-cylinder type, is designed for drying of rayon tricot and print fabrics.

The Redman machine, designed for relaxation shrinkage of knit goods, has been assembled at Spring City Bleach & Dye Works and is now undergoing tests.

In the plain-dyeing field, the use of a low-melting alloy (Cerrobend) to exert pressure in dyeing with colloidal colors received several press notices, and some domestic companies are believed to be actively engaged in experimenting with this process. A similar method, patented in Germany, uses a molten metal bath with electrical heating for color developing, ageing, drying, etc.



FINISHERS Make Progress in Speeding Their Processes

HIGHLIGHTS: Speed and economy are keynotes of year in dyeing, bleaching, and finishing—Synthetics handled more and more like cottons—Wool finishes may open new fields.

By C. NORRIS RABOLD and N. D. MARIUS

COTTON FINISHERS have welcomed continuous scouring, bleaching, and dyeing processes with considerable enthusiasm. A number of installations of this sort were made in 1947, with additional ones planned for this year. These streamlined processing units created many new problems for chemists and engineers, a number of which have not yet been solved completely.

RANGE OPERATION. The high-speed bleaching ranges created a problem in washing, especially after the caustic scour. Machinery manufacturers now have a tight-strand rope washer, really three washers in one, that is a big improvement over the older types. It is necessary, however, to wash certain fabrics slack. Even though these fabrics can be bleached at speeds of 200 to 300 yd. per min., they are seldom processed over 125 yd. because of the limitations imposed by the slack washers, with chance for tangles at speeds much over that. A new washer is said to operate satisfactorily at much higher speeds so that production here can be greatly increased.

When hot water is used for washing on both bleaching and dyeing ranges, heat reclaimers now offer the possibility of effecting important savings because of high fuel costs.

Instrument control of steam and water flows, chemical feeds, etc., are a must for both bleaching and dyeing, since even one hour of operation with an excess of hydrogen peroxide in bleaching, or hydrosulphite or acid in vat dyeing, for example, can mean quite a few dollars down the drain.

Since modern ranges use chemicals in tremendous quantities, carboys and drums are giving way to tank-car deliveries, involving bulk storage on the part of the finishing plant. Where a considerable volume of mercerizing is done, caustic-soda recovery plants may show considerable savings.

HANDLING SYNTHETICS. The trend today is to handle synthetic-yarn fabrics more and more like cotton, with due attention to strain and tension. There are continuous-preparation units of both the rope and open-width types, but open-width boil-offs are meeting favor over the rope systems.

When the Du Pont and Williams dyeing ranges are equipped with tensionless drives and individually driven rolls as in hot flues, synthetic-yarn fabrics can be handled on them quite satisfactorily.

Multi-stage loop dryers aid greatly in the controlled application of shrinkproofing resins and chemical treatments for the same purpose.

Crush-proofing applied to all-cotton fabrics on a commercial scale is relatively new and at the present time is not suitable for all constructions and weights. However, 1948 will bring further advances in this field of finishing.

Today, one of the most significant advances in textile finishing is the way chemists and engineers are getting together in an effort to produce equipment to carry out efficiently the chemical reactions involved. This tendency toward mutual cooperation is growing; and, from it, the industry may expect higher-quality fabrics at a lower processing cost.

WOOL DETERGENTS. High soap prices during the year have stimulated the use of synthetic detergents in wool-textile processing. Unfortunately, the synthetic detergent with all the desirable properties of the fatty-acid soaps has not yet been developed and from a theoretical colloidal standpoint seems hardly possible. However, the synthetics have found use where soaps could not be safely used; and, for many conventional finishing and scouring processes, the synthetics in combination with soap have given excellent results with considerable saving to the textile processor. A much greater quantity of synthetic detergents could be used by the wool branch during the coming year.

In addition to a shortage of dyes manufactured in America, many of the specialties (such as Swiss) made in Europe before the war have been completely unavailable. There has been a critical shortage of the Swiss specialties, and this situation appears to be even more difficult for the coming year. Elimination of Germany as an important factor in dye manufacture is also being felt.

Efforts to produce faster dyeings on wool with more rapid production methods than the usual batch processes of kettle dyeing are resulting in experiments with continuous-dyeing equipment for wool fabrics, such as adaptations of the Williams continuous-dyeing equipment. One proposal is to dye wool with cotton vat dyes which have fastness properties far in excess of the best wool dyes.

There has been a greater use of the Du Pont multi-lap machine for dyeing wool fabrics. This machine will produce dyeings on wool mixture fabrics with a considerable saving of equipment and time as compared to existing conventional methods. Adaptation to all-wool textiles has also been shown.

WASHABLE WOOLS. Last year saw definite progress in the marketing of washable wool garments. In the future this development may be as startling as the development of vat dyes for cotton.

Wool finishers have settled down to two types of treatment to prevent wool from shrinking in laundering. One type includes a wide variety of controlled chlorination processes such as Kroy, Harriset, Negafel, Protonize, etc., while the other involves use of melamine resins for accomplishing the desired result. Each process has its particular advantages. Finish may be better controlled by chlorination of the wool before spinning. However, with the resin application, there is greater flexibility in fabric and dyeing when that treatment is applied in the fabric's final finishing operations.

There has been a trend toward continuous solvent-scouring processes for wool, and a number of these units will be in operation soon. One of the principal reasons for the development is the widespread demand for less pollution of rivers and lakes by the discharge of wash water saturated with wool grease. Considerable expense may be forced on textile mills in proper handling of wool-scouring wastes. The solvent method of cleaning offers an excellent opportunity to solve this problem, as the wool grease is completely recovered by distillation of the solvent and is kept away from any water washing process.

Considerable interest is being shown in the blending of nylon with wool, although the use of nylon presents certain wet-finishing and dyeing irregularities which, however, are being attacked with success. The advantages attained by the use of a moderate amount of nylon with wool are startling. Nylon increases the strength of wool to such a marked degree that much finer worsted yarns can be produced either by a blend of the nylon with the wool or by using a nylon core yarn. In addition to making a serviceable fine yarn, nylon also helps to stabilize the wool fiber to laundering.

Expanded PERSONNEL SERVICES

Are Fixture in Textile Industry

HIGHLIGHTS: Achievements of personnel departments rank high in field of public relations—Dollars-and-cents values questioned and proved — Employee training a vital part of industry's growth.

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

LEGAL REVALUATION by Taft-Hartley, at least one general wage-increase, and widely expanded personnel services were some of the highlights of labor and personnel activities during 1947. The legal revision was welcomed by most fair-minded observers, but textile management-labor relations were already smoother and on a higher plane than those of many other industries.

In textiles, there was no widespread radical-versus-capitalist clamor; there was no chortling on the part of management over so-called "gains." There was a belief that management should counteract the attempt of union leadership to condemn the Taft-Hartley law; but wherever individual workers, union or non-union, were queried, the majority favored the individual sections of the law.

Thoughtful observers believe, however, that the expanded services of mills for their employees has been a most important trend in the textile industry. While legal aspects of basic rights are momentous, enlarged services are decisive. That they will pay off in continued good relations was believed to be a certainty.

PERMANENT WORTH. In fact, some personnel managers are already arrayed against any possible attempt to reduce the expanding services of a wide-awake personnel department. They believed that in-plant feeding, health and safety programs, new-worker orientation, employee training and pre-job testing, plant music, and movies may suffer the fate of many another innovation in the industry, i.e., be discontinued when times get tighter, unless every effort is made by personnel leaders to prove the worth of the various ideas.

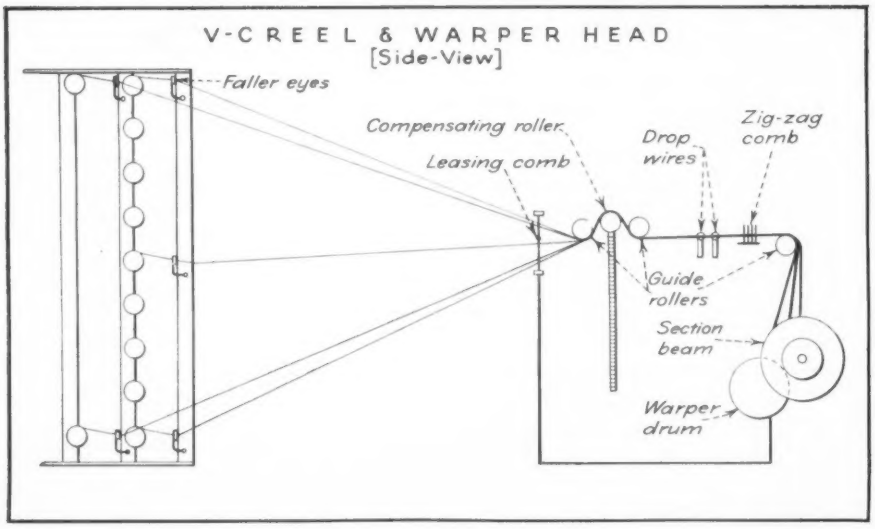
The tremendously higher textile wage-level now competes broadly for workers. The reduction of special and costly services such as housing and village maintenance (which were elements of real wages never calculated by the industry's critics) has bettered the competitive position in some ways and impaired it in others in the strategic area of the South where rapidly-growing food and metal industries vie for worker acceptance. This more open competition for labor is illustrated further by the fact that more air-conditioning and improved-housekeeping methods are being installed in textile plants than in any other type of manufacturing in the South.

EMPLOYEE TRAINING. Some mills are making great strides in employee training. This training is being coordinated with thorough work-load analysis, so that improvements in machines or methods might be taught and installed in the mill.

The success of one large and progressive mill points the way for the industry in employee training. This mill combined intensive training of roving-frame operators with a thorough work-load analysis. The result was an increase in production per man-hour of 100%.

DOLLAR VALUE. How does the average personnel department determine dollars-and-cents values? The answer as given by one mill is: Production engineers, machine designers, and production supervisors can devise a lot more cost-saving devices and improvements than the average mill can take advantage of unless the mill employees are well prepared for the new idea.

Dollars-and-cents results of coordinated training, engineering, and production efforts will give a mill no reason to fear for the future of expanded personnel services. Indeed, the task of training, educating, and leading mill personnel to the full acceptance of technological advances appears to be so great that it alone could consume the efforts of a greatly expanded personnel function in the future.



V-creel and head for warping twisted yarns should be 9 to 10 ft. apart.

Rebeamer can be thought of as similar to rayon slasher less size box and dry cans.

Cotton System Excellent for WARPING BEMBERG

HIGHLIGHTS: *Rolling of hard-twisted ends can be minimized—Cutting action of yarn reduced by chrome plating guides and other parts—Double stop motion recommended—System also suitable for other types of twisted yarn.*

By JOHN GASSMAN
Bruck Silk Mills, Montreal, Canada

To be successful in warping Bemberg* crepe warps on the cotton system, it is most important that the yarn from the throwing plant is redrawn from the ironheads to the fiber or shipping spools with utmost care. The spools should be uniform in size to obtain the maximum yardage for the section beams, and so that too many spools do not run out on the V-creel.

The spools should be free from lapped or crossed ends, which cause too much stoppage of the warper, and which also cause tight ends and lost ends on the section beam.

In warping and especially in rebeaming, most successful work is done when the relative humidity is kept between 55 and 60%. While this is not so important in warping section beams, it is one of the main factors in successfully rebeaming the yarn from the section beams to the loom beams

High humidity causes the ends to roll between the section beams and the leasing reed and can cause no end of trouble due to breakouts.

Strong drafts should be avoided near the warping-creels, as they tend to tangle the ends when the warper is standing. Temperatures should be held from 70° to 75° F. for most successful warping and rebeaming.

WARPING. The yarn is usually warped from what is called a V-creel equipped with faller-eyes.

The faller-eyes, any stationary guides, and the vertical guide-rods on the V-creel should be chromium plated, as Bemberg yarn cuts into metal very rapidly. Some mills insert porcelain eyes into the faller-eyes, in which case chromium plating would be necessary only on the guide wires and vertical guide rods.

The capacity of the V-creel is figured according to the number of ends a section beam must carry. For instance, a warp of 4,800 ends, warped 2 ends S twist, 2 ends Z twist, requires 8 section beams (4 of S twist, 4 of Z twist) at 600 ends each. Therefore, the creel should have a capacity of at least 600 ends. It is well to figure the capacity of the creel over of what is absolutely needed, in case of construction changes.

The distance between the spools vertically depends on the flange size of the spools used. Sufficient space should be figured so that the operator can creel in and out without being hindered by lack of working space.

The spacing of posts is controlled by the length of the spool used and should be figured adequately in case various size spools are used.

TAKE-UP. To wind the yarn from the creel onto the section beams, a slow-speed, drum-driven warper head is required. The speed of the warper should not exceed 60 yd. per min., as the problem of over-rolling of the spools, when the warper stops, will have to be taken into consideration.

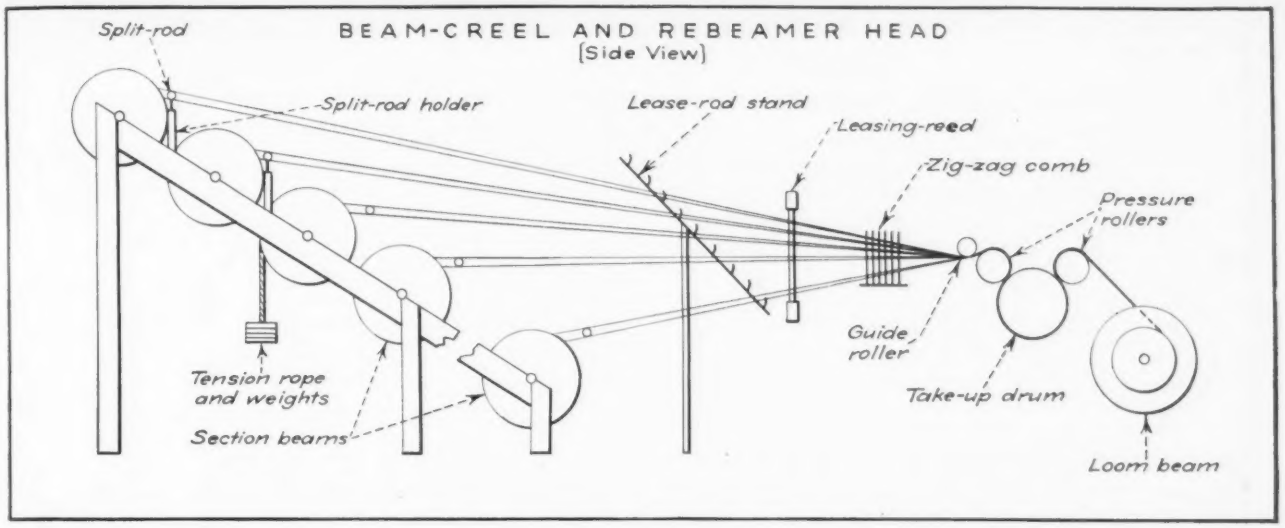
The warper should be equipped with a compensating roller to take up the slack of yarn, which occurs from over-rolling of the spools when the warper stops. This roller and the two guide rollers should also be chromium plated against cutting.

The warper should be equipped with a predetermining yardage counter, which stops-off the machine at a given yardage.

The warper should also be equipped with a leasing comb to make end-and-end leases for the section beams. This comb would contain 300 dents to handle 600 ends per section beam.

The warper can be equipped with a zig-zag comb containing 600 pins. This comb controls and adjusts the

* *Bemberg is the trade name of American Bemberg Corp. for its cuprammonium-rayon yarns.*



width of the warp ends for building up the section beams evenly.

These combs also should be chromium plated against cutting and rusting.

It is advisable to equip this warper with a bank of two rows of drop-wires for each individual end to doubly insure the stopping of the machine.

The warper head is located approximately 9 to 10 ft. from the tip of the V-creel.

BEAMS. Section beams usually measure 34½ in. inside the flanges. The diameter of the flanges should be figured according to the yards to be put onto the section beams; this yardage is controlled by the size of the yarn spools. An 8-oz. spool will make a warp of approximately 20,000 yd., and the flange of the section-beam should not be more than 20 in. in diameter.

The smaller the section-beam flange is, the more successful the rebeaming operation is going to be. The smaller the section-beam flanges are, the closer they can be mounted on the section-beam creel. The shorter the distance from the section beam to the leasing reed on the rebeamer, the less chance of the ends rolling during the rebeaming operation. This is a most important factor in successful rebeaming.

It is of utmost importance that beam flanges are true and at all times pressed tightly against the beam-barrels.

It is advisable to mark the flanges of the section-beams on the outside with an arrow to indicate the direction of the yarn wound on the beam. This enables the operator of the warper always to mount the beam on the warper in the same position.

REBEAMING. A rebeaming creel is similar to the creel used for the section beams in slashing continuous-filament rayon. In addition to the customary tension ropes, it must also be equipped with adjustable split-rod holders. The split rods are located immediately in front of each section-beam during the rebeaming operation. They split the shed of each beam end-for-end and help to prevent the rolling of the ends, which at all times is the most dangerous factor to deal with.

The creel should be built so that the sheds from the section beams are kept as far apart from each other as possible. The slant of the creel will be considerably steeper than the creel used behind a slasher.

In order that the operator can trace and tie-in broken and lost ends comfortably, a walk can be provided on each side of the creel.

The leasing-rod stand is the type used in slashing, but the lease rods are not kept in the stand during the rebeaming operation. They are kept in front of each section beam, resting on the sides of the creel below the shed of the beam. The rods are brought forward into the stand only when a lease has to be taken. This is done to prevent further rolling of the ends in rebeaming.

The split rods are approximately ½ in. thick and should be chromium plated; leasing-rods are approx. ¾ in. thick and can be made of stainless steel.

It is an advantage to have an open-type leasing reed, which makes it possible to lay-in the section beams by use of a paper tape, which is much faster than entering the ends with a hook, as must be done when using a closed-type reed.

The count of this reed is controlled by the number of ends on the section beam. Entering one end from each beam into the same dent would require a reed with 600 dents (8 ends per dent). The over-all spacing of the dents should be figured to spread the warp ends to approximately 52 in. This will create a pull-in from the section beams to the reed of 1⅛ in. on each side and will prevent the ends from striking the flanges during rebeaming. It also will permit the yarn to come through from the reed to the zig-zag comb at the least severe angle. The zig-zag comb used is the same type comb as on the slasher and warper.

BEAMER FRONT. The rebeamer head is much the same as the front of a slasher. In fact, an old slasher front with drive can be used. The newer rebeamer heads, however, have better-built drives with finer controls of speeds. They also contain automatic cutmarkers.

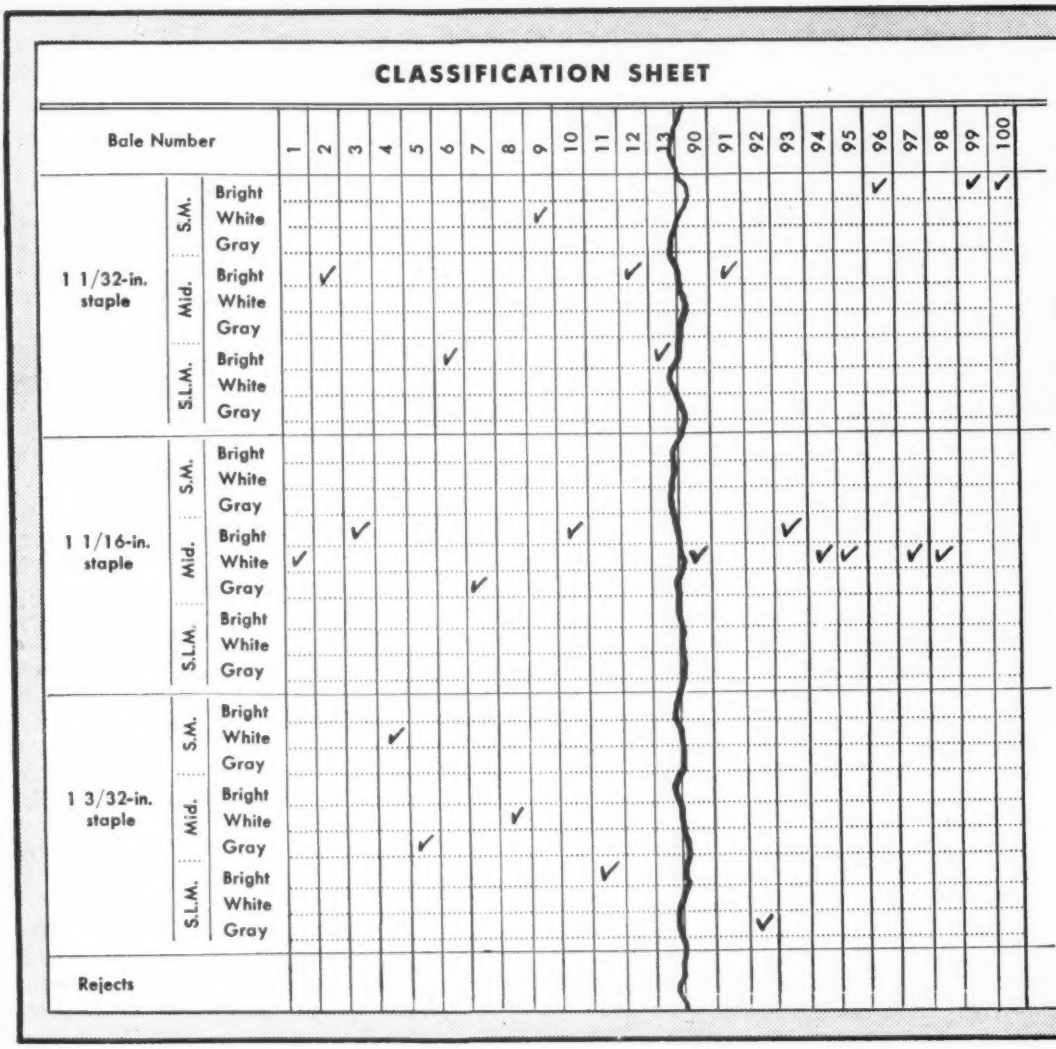
In rebeaming, it is very important to have pressure rolls riding on the takeup drum. They prevent the broken ends from snapping loose on the loom beams, and the ends will keep more uniformly tight.

The take-up drum should be covered by a continuous cloth for the protection of the yarn. Guide rollers and pressure rollers should be chromium plated to prevent cutting and rusting.

The speed of the machine will depend entirely on the quality of the yarn and on the careful making of section beams on the warper.

The crawling-speed should be approximately 5 yd. per min. The highest speed practically possible will not exceed 100 yd. per min. on Bemberg crepe yarn.

The equipment outlined can also be used for warping and rebeaming other types of yarns, such as combinations, ninons, viscose crepes, etc. Spool-creels, reeds, and combs, of course, will be different according to the various types of cloth a mill desires to make.


CLASSIFICATION SHEET
Bale Number
1 2 3 4 5 6 7 8 9 10 11 12 13 90 91 92 93 94 95 96 97 98 99 100
1 1/32-in. staple
1 1/16-in. staple
1 3/32-in. staple
S.M.
Mid.
S.L.M.
Bright
White
Gray
Rejects
To the left, the classer enters each bale of a new lot of cotton and carries totals to bales received column at right.
To the right, he circles the bales to be used in blend, enters bales-per-mix figures obtained from calculation at far right.

Cotton Classification + Inventory =

HIGHLIGHTS: *Careful classing and bale selection overcome variations of leaf, color, or staple in successive mixes of cotton—Systematized procedure depends upon calculation of mixes for long-term use and assures uniform successive mixes, constant production, and standard yarn quality.*

By SETH CARTER

SKILLFUL CLASSING and careful bale selection are the tools used by the cotton classer to discharge his two-fold duty of: (a) buying a costly and variable raw material in a complicated market; and (b) maintaining a series of successive and uniform blends of that raw material so that yarn quality will be standard. A systematic procedure of classing each bale and a complete inventory of the different bales are the other essentials to long-term, uniform blending. And when positive methods of identification are tied into the system, the classer has created a cotton control that will save the mill money and improve the long-range production and quality of the yarn.

The job of setting up such a plan is not an easy one. For one thing, a fairly even-running lot of cotton will often vary in color from bright-bloomy to white, and from dead-white to gray-cast. When yarns are shipped in the gray, the color variation becomes very important. The color contrast in the lot may be so great that an increase or decrease in contrasting bales of successive mixes will show up as light or dark streaks at the warper or loom.

Careful blending of cotton in the opening room will not always prevent the extreme variations in color, leaf, or staple which destroy or impair the quality of the yarn. Each mix of the cotton may be a perfect blend of all bales in the mix; but, if the proportions of bales of different color, leaf, or staple are not maintained throughout successive blends, the yarn will be off-standard when portions of the different mixes come together at the loom or knitting machine.

To many mills, the selection of bales from a large number of marks or lots is generally an assurance of

EDITOR'S NOTE. *By adding proper headings to the cotton classification and inventory shown, such as date, shipper, type of cotton bought, mill name, etc., the mill superintendent can devise a valuable set of cotton records.*

INVENTORY SHEET

Total Bales On Hand	Bales per Mix	Total Mixes Used	Total Bales Used	Balance	Bales Rec'd	Total Bales On Hand
300	3	5	15	285	8	293
50				50	1	51
101				101	3	104
45				45	1	46
273				273	4	277
1200	12	5	60	1140	51	1191
400	4	5	20	380	13	393
20		-		20	3	23
16				16	1	17
19				19	2	21
100	1	5	5	95	11	106
4				4	2	6
2				2	0	2

HOW TO CALCULATE THE BLEND

From the cotton inventory the classer selects the following bales for the blend: 300 bales of bright Strict Middling of 1 1/32-in. staple, 1,200 bales of white Middling of 1 1/16-in. staple, 400 bales of gray Middling 1 1/16-in. staple, and 100 bales of bright Strict Low Middling of 1 3/32-in. staple, a total of 2,000 bales to be used for several successive blends.

Bales per mix are 20, and total mixes would be 2,000 ÷ 20, or 100. By dividing the latter figure into the number of bales of each classification, the classer finds the number of bales to use in each successive mix of this blend, as follows:

300÷100=3 bales per mix of bright Strict Middling, 1 1/32 in.

1,200÷100=12 bales per mix of white Middling, 1 1/16 in.

400÷100=4 bales per mix of gray Middling, 1 1/16 in.

100÷100=1 bale per mix of bright Strict Low Middling, 1 3/32 in.

= UNIFORM BLENDS

uniform mixes. But the assurance is of doubtful value when there is variation in the characteristics of individual bales in the mark. The variations do exist in the same mark or lot, and the haphazard selection of bales from a random list of many marks will not guarantee the uniformity desired.

Nothing less than the actual, detailed characteristics of each bale will serve as the proper basis for the selection of bales in the mix. After the leaf, color, and staple characteristics of each of the bales have been obtained, the details are entered on the cotton-classification sheet shown above. A range of three grades, staple lengths, and colors should be ample to cover all variations that are acceptable. In actual practice, this would cover one grade above and below the invoiced grade and staple.

The totals from the classification sheet show the number of bales of each different character in the mark or lot. They are added to other totals of similar bales on the cotton-inventory sheet; and thus a perpetual inventory is kept of each type of bale on hand.

BALE SELECTION. The classer uses the totals on the inventory sheet in his selection of bales for current mixes. The quality requirements of the various classes of work will determine the variations of leaf, color, and staple that are acceptable for the mix.

The general practice accepts a reasonable number of bales one grade below normal if offset by an equal number of bales one grade above normal. With regard to staple length, the more liberal policy permits the inclusion of some bales classed 1/32 in. below normal if balanced by the same number of bales classed 1/32 in. above normal. Once the "prescription" of bales is determined, it should be followed strictly. Bales which do not fall within the tolerances of color, leaf, staple, or preparation should be recorded in the system but should be marked "Hold." Such a mark indicates that the bale cannot be used for the current mix but may be acceptable for lower-quality mixes.

To maintain uniformity between present and future mixes, each successive mix must contain approximately the same number of bales of each different classification as listed on the cotton inventory. The proportioning of the bales to each mix is easily accomplished.

PROPORTIONING BALES. The total number of bales of all kinds on hand

(Continued on page 194)

Manual Guides

DRAPER LOOM FIXING

***HIGHLIGHTS:**—Pocket-size book distributed by Southern mill to help loomfixers—Causes of cloth defects and seconds outlined in easy-to-read form.*

A MANUAL OF "Suggestions to Loomfixers for Model XD Draper Looms" was distributed to its loomfixers and weave-room supervisors by a prominent and progressive Southern mill. The pocket-size (3½x6¼ in.) booklet contains 16 pages suggesting methods for reducing seconds by pointing out the causes of various cloth defects and faults of various motions of the loom which can cause seconds. Extra pages are included for the fixer's notes.

CAUSES OF WAVY CLOTH

Let-off assembly too high
Cork worn in let-off friction dog
Pallet worn
Take-up roll gear loose
Let-off pawl worn
Beam jumping
Pitman arm loose
Parallel loose (picker foot)
Bad beam head
Let-off pinion gear worn
Gears on take-up shaft worn
Crankshaft bearing loose
Sword loose
Reed loose
Cross girt loose
Rocker-shaft bearing worn or broken
Journal loose in take-up roll
Pick gear loose
Let-off shaft worn
Vibrating cam not set properly or loose
Take-up choked up

CAUSES OF THIN PLACES

Filling-fork grate choked up
Filling fork hanging
Sword loose
Beam jumping
End play in rocker shaft
Loose lay
Loose reed
Filling cam-follower end worn or loose
Cam-shaft bearing loose
Brakes not properly set
Pitman arm loose
Center-fork knock-off spring broken
Center-fork prong-spring broken
Slot in center-fork cam choked up
Cam latch hook not set
Filling cam loose
Filling-cam follower hub loose
Center-fork knock off not set or worn
Center-fork knock-off bunter not set or worn
Bunter-rod cam broken or too much lost motion

SECONDS CAUSED BY LET-OFF MOTION

Friction slipping
Let-off pinion worn out
Pallet worn out
Parallel bottom loose
Let-off shaft worn out
Let-off shaft stuck
Stroke not set
Connecting rod worn out
Let-off bearing worn out
Driving rod loose
Beam lever not properly set
Worn vibrating rod
Bad beam head
Vibrating cam not properly set
Bad beam lock
Pallet spring broken
Both swords loose
Key out of warp pinion
Let-off worm wheel loose
Vibrator rod lever not set

OVERSHOTS MAY BE CAUSED BY:

Harness sheaves binding
Harness not set
Harness not timed
Picking early
Picking late
Picker not paralleled
Parallel stud worn out
Harness hanging
Crossed drop-wires
Shed not divided
Heddles not divided
Temple too high
Spring not hooked up right
Pickers worn out
Slack warp
Broken heddles
Harness spring broken
Bad harness cords

SECONDS CAUSED BY STOP MOTION

Stop motion not set right
Sliding-feeler bar choked up
Sliding feeler out of time
Sliding-feeler cable wire broken
Stop-motion oscillator-cam follower worn out (half moon)
Bad sliding feeler-bar holders
Flexible wire broken or bent
Sliding-feeler bar end worn out
Knock-off latch worn out
Plunger worn out
Finger broken (feeler bar)
Feeler-bar finger spring broken
Knock-off rod loose
Oscillator-rod end worn out
Stop motion not divided
Stop motion too low, yarn dragging bars

SECONDS CAUSED BY PICK MOTION

Picking too late
Picking too early
Pick point worn out
Stirrup too low
Lug too low
Bearing worn out (pick shaft)
Pick ball worn out
Cam rim loose
Pick ball binding
Check strap not set
Picker too high or low
Parallel stud worn out
Parallel tongue worn out
Heel spring loose
Parallel bottom loose
Parallel screw loose
Cam-shaft gear loose or worn
Pick-shaft bearing broken

CAUSES OF BROKEN FILLING

Bad filling
Bad bobbins
Bad shuttle
Bad box fronts (leather)
Bad fur
Bad shuttle springs
Bad shuttle eye
Bobbin too high, too low, or one-sided
Shuttle bouncing
Burst picker
Broken picker stick
Too much power
Temple too close to reed
Midget feeler set too deep
Bolt loose in lay end plates
False changes
Harness not properly set
Picking late
Bobbin stop spring worn or broken
Leather bumper on battery end worn out
Filling too large on bobbin
Picker stick too high
Sword loose
Rocker shaft bearing worn out or loose
Shuttle not properly boxed
Thread cutter striking reed causing broken picks

SECONDS CAUSED BY DOBBY HEAD BEING OUT OF FIX

Hooks bouncing off
Hooks hanging on
Knives worn out
Swivel pins worn
Swivel worn
Index fingers worn or broken
Eye bolts worn
Index wires worn or bent
Head not properly timed
Bolts or cap screws or set screw loose
Grates worn or broken or loose
Chain drum worn
Harness levers worn where jacks work
Jack backs worn
Jack-back girts worn
Loom picking hard causing hooks to bounce off
Clutch spring loose
Clutch hub or plate worn
Pin rack binding index fingers
Back-girt bolt broken

SECONDS CAUSED BY PROTECTION MOTION

Broken protector-rod spring
Protector-rod caps worn or loose
Too much end play in protector rods
Rocker-shaft bearing worn out
Dagger finger too close or loose
Binder worn out
Binder too tight
Frog steel worn out
Knock-off not properly set
Slot in sword worn
Lost motion in frog or rubber worn
Dagger worn out
Protector-rod connection loose
Sword loose
Leather on dagger stop worn out
Protector-rod spring too tight or loose
Daggers not set
Protection rods worn out

SECONDS CAUSED BY TAKE-UP MOTION

Take-up shaft loose
Intermediate gear not meshed with take-up and change gears
Change gear stuck
Pinion gear worn out
Take-up roll gear loose
Take-up roll bearing broken or worn out
Pressure roll worn out or stuck up
Take-up roll covering worn out
Take-up pawl arm connection end not set or loose
Intermediate gear stud loose or worn
Take-up pawl connecting arm loose
Take-up pawl-connection turnbuckle loose or not set

CAUSES OF JERKED-IN FILLING

Filling knife assembly (duck bill)
Picking early or late
Bad picker on battery end
Bad fiber blade
Duck bill choked up
Bad box front (leather)
Thread cutter bad
Shuttle bouncing
Duck bill too high
Duck bill too low
Picker not paralleled
Duck bill not deep enough
Shuttle-feeler stand too high or low
Bad fur in shuttle
Filling cam not properly timed
Hopper stand loose
Transferrer set too deep or too shallow
Rocker shaft bearing worn out
Lost motion in pitman arm
Shuttle not boxed properly
Crankshaft bearing loose
Shuttle not properly grooved
Temple too far back
Pulling filling out of duck bill before cutting
Bad temple blades
Duck-bill trip not opening or closing blades
Leather bumper worn out on picker-stick guide
Parallel bottom loose (picker foot)
Parallel stud worn out

CAUSES OF SLUGGY FILLING

Burst picker
Bad box front (leather)
Tape selvage not set
Picker screw not driven up
Thread cutter not cutting
Heel strap broken
Burst shuttle race (race plate)
Shuttle bouncing
Harness not timed
Too much power
Bad fur in shuttle
Screw loose in lay end plate
Thread-cutter spring broken
Filling hanging on end of bad reed
Leather bumper gone or worn out (on picker-stick guide)
Burr on picker
Burst picker stick
Harness not set
Slack warp.

SECONDS CAUSED BY BOBBIN BREAKOUTS

Picker worn too deeply
Loom picking early or late
Picker off
Shuttle feeler not properly set
Pitman arm worn too short
Shuttle bouncing
Breast beam loose
Bobbin rolling in shuttle
Bunter on lay broken or loose
Hopper stand loose
Rocker-shaft bearing broken or worn
Latch worn out
Transferrer worn out
Picker stick burst
Lay-end leather out
Bobbin disk out of line

SECONDS CAUSED BY CENTER FILLING FORK

Shuttle not furred correctly
Shuttle not boxing properly
Fork too high
Fork too low
Fork prong not in line
Too much power
Loom picking early
Loom picking late
Too much tension on fork spring
Harness too low
Harness not timed right

TIMING OF DOBBY HEAD

Top or bottom knife at extreme back or front. Timing gear just in gear wheel. Heads should be kept well oiled and greased and all bolts, set screws, and cap screw kept tight.

Leader-wire loops should be spaced on notch levers and harness set so warp will have proper shed of yarn for shuttle to pass through.

Harness properly set to avoid overshots or drop threads.

Set dobby knife so there will be about ¼-in. space between dobby knife and hook at front and back.

LOST PRODUCTION AND SECONDS CAUSED BY BATTERY

Battery not properly filled with filling
Battery stuck
Transferrer not properly set
Bobbin stop spring broken
Bad bobbin support
Thread guide
Weak transferrer spring
Oily filling (by brake wheel)
Bobbin disk worn
Hold-back pawl worn
Bobbin disk not set
Battery journal worn out
Bobbin disk spring weak or gone
Feed-pawl spring and case weak or gone
Transferrer-fork hammer loose

INCOMING YARN	Date 10-15-47			
Supplier	Lot No.	Case No.	Denier	Net Wt.
Duplan	4493	1	30	85
Duplan	4493	2	30	82
Duplan	A-8075	18	20	79
Duplan	A-8075	19	20	77
Dupont	55671	10	60	46
Dupont	55671	11	60	45
Dupont	50682	20	15	65

Fig. 1. A record of incoming yarn should be maintained by the date, supplier, lot number, case number, denier of yarn, and net weight of yarn.

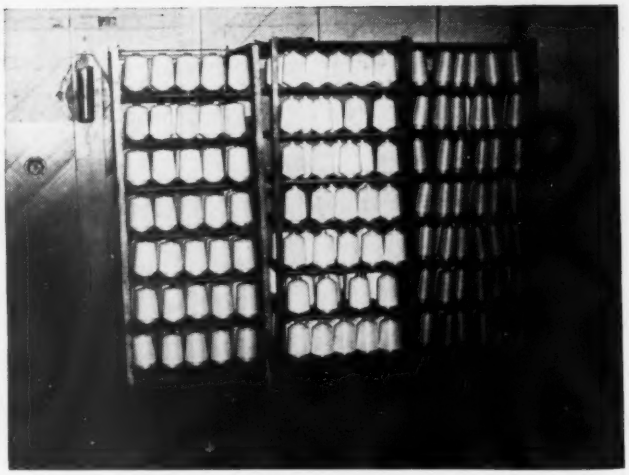


Fig. 2. Knitter's yarn supply should be maintained in a cabinet convenient to the knitter but located so that the yarn will not get dirty.

CONTROL of WASTE
Requires an Adequate System

HIGHLIGHTS: *Waste in a full-fashioned hosiery mill can quickly eat up profits—Accurate weekly and monthly waste records are essential —Frequent checks and follow-ups can hold waste at a minimum.*

By H. B. LeFEAUX
Consulting Editor, TEXTILE WORLD

THE FULL-FASHIONED hosiery industry is fast becoming a competitive business. With the number of machines operating today, if nylon was available in the amounts wanted by mills, there would soon be an overproduction of hosiery. When this condition occurs, prices will begin to come down and the only way that a manufacturer will be able to remain successful is by using the most economical methods possible.

Actually, this situation is already beginning; and while hosiery is going down in price, living costs are still going up in many instances. Therefore, ways and means of operating more economically, other than by reducing wages, must be found.

One of the most important ways to operate more economically is by watching waste of materials. Labor, generally because of the lack of experience, will produce only in the easiest way. Waste of material is something that the knitter feels does not concern him, as he does not have to pay for it and therefore does not understand the necessity for being economical in such matters. During the past boom years, waste and other similar matters became a secondary issue because management became lax in view of the high profits shown.

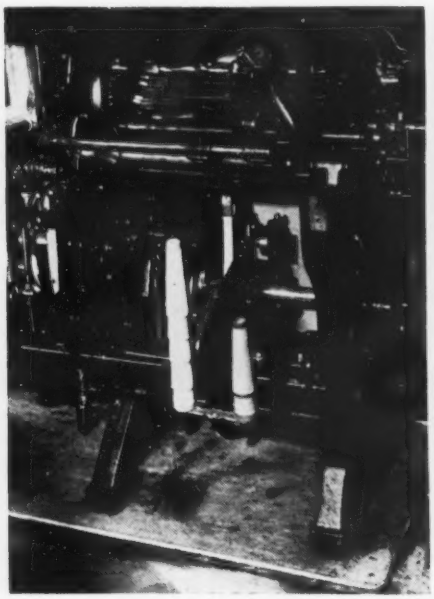


Fig. 3. Empty cones should be placed on racks at the back of the machine.

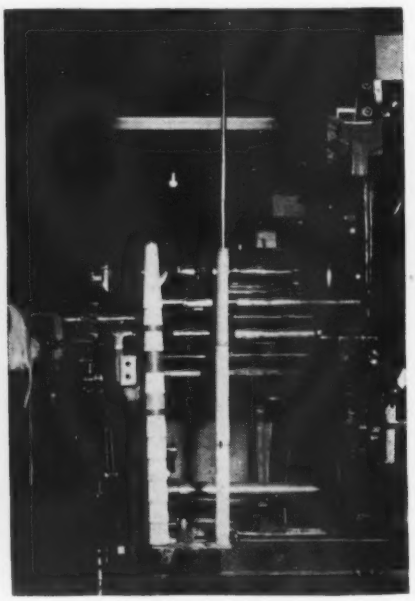


Fig. 4. Ten- and 15-den. nylon-yarn bobbins are placed on the long rod at the right.

RECEIVING YARN. Since the greatest cost item in connection with manufacturing full-fashioned hosiery is the material, or yarn, it is of paramount importance that waste be kept at a low percent. It is desirable in smaller mills to have one man check the receiving of all yarns. A record of each case received should be written down by lot number, case number, net weight, denier, and date received. Fig. 1 shows a good yarn report. If such a record is accurately kept, it will aid the bookkeeper in maintaining an accurate check on all yarns received.

The man in charge of the yarn

should see that each denier and lot number of cases are kept so that the "number one" case will be opened first and all succeeding cases will be opened in the order of their respective numbers. This man should be held responsible for opening all cases of yarn. The invoice on each case must be saved and later turned in to the bookkeeper.

A method of placing the yarn on racks for the knitters is shown in Fig. 2. The man in charge of the yarn should fill these racks once each morning and afternoon. When the knitter finds a bad cone of yarn and takes it out of the machine because of the yarn pressing off, or for other reasons, this cone should be marked by the knitter; and an "x" should be made on the yarn by using the same type of soap crayon that is used to number the welts. This cone should then be placed on top of the knitter's cabinet and picked up by the yarn man after each shift.

He should put such cones in a box until enough of them are accumulated and then strip yarn off the bad cones until he is satisfied that they will run when put back in the machines. After all such bobbins or cones have been prepared for re-use, the yarn man should place them on the yarn racks. No new cones should be put on the racks until all of the piece cones are used up. This method tends to cut down excess waste, and many pounds of yarn are saved per month. Cones of yarn that are bad due to a fault of the throwster should be readily taken up with the throwster.

TYING ON NEW CONES. Knitters should be taught to run as much yarn off the cone as possible before tying on a new cone. One layer of yarn left on the cone is sufficient. Empty cones should be placed on the back of the machine on the empty cone racks, as shown in Figs. 3 and 4. Note that one side is for the body-yarn cones, while the other holds the empty welt-yarn or splicing cones that are to be sent back to the nylon supplier. The long rod on the cone rack in Fig. 4 is for 10- and 15-den. pirns. At the end of each shift, the yarn man picks up these empty cones; and if too much yarn is left on any cones, he reports to the foreman.

On one end of each machine a waste bag should be hung. The knitter should put all waste or strings in this bag. Good welts and good leg top-ons are put in the knitter cabinet, and the girls that top-on collect these daily.

Every Saturday morning the yarn man should collect the waste in each bag, weigh it, and record the weight on a sheet for the week. At the end

(Continued on page 224)

MACHINE WASTE REPORT Month ending 11-29-47

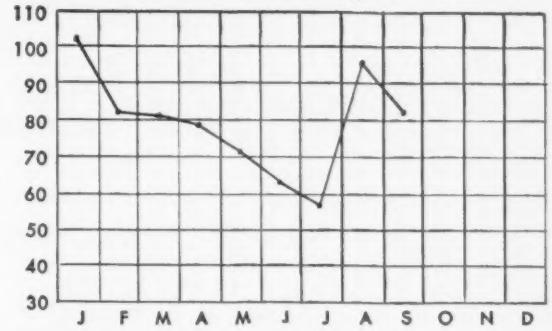
Machine No.	Week ending 11-8	Week ending 11-15	Week ending 11-22	Week ending 11-29
1	10 oz.	13 oz.	11 oz.	13½ oz.
2	12½	14	10	12
3	9	11	10½	9
4	16½	8½	11½	10
5	11	10½	10	10½
TOTAL	59 oz.	57 oz	53 oz.	55 oz

224 oz. ÷ 16 oz. = 14 lb. of waste

Fig. 5. Machine waste, weighed each week and recorded by the month, can be kept at a minimum by close checking and follow-up.

Monthly Machine Waste Report for Year Ending Dec. 1947

January	102
February	82
March	81
April	79
May	71
June	63.9
July	57½
August	96
September	82
October	
November	
December	



Monthly Waste Shipments

	Welts	Knitted pieces	Waste	Total
January	49½	90	48	187½
February	51	100	45	196
March	57	76	34	167
April	55	65	66	186
May	55	54	27	136
June	50	79	39½	168½
July	50	85	38	173
August	53	85	16	154
September				
October				
November				
December				

Monthly Needle Report for Year Ending Dec. 1947

January	8200
February	9,000
March	8,700
April	9,750
May	8500
June	6600
July	8,600
August	8,000
September	10,000
October	
November	
December	

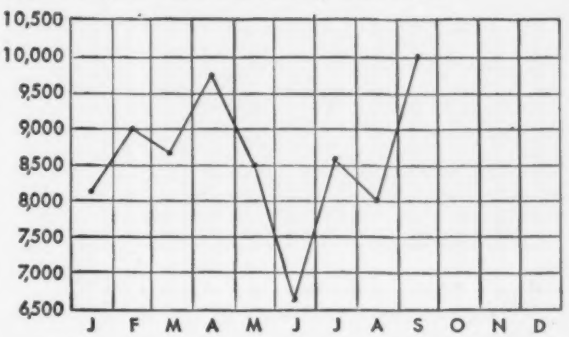
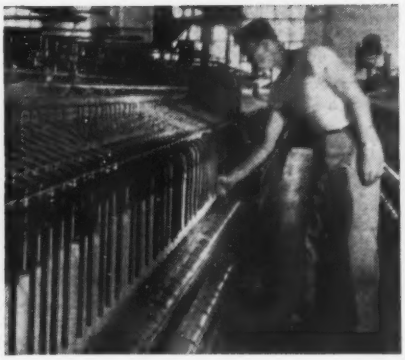


Fig. 6. Needle and waste record by the month—presented in tabular and graphic form—is a valuable tool for the superintendent when combined with production records.

BEFORE



1. *This three-frame set of roving frames is equipped with shifter rods alone for starting and stopping. The operator has one frame in the background alley. He demonstrates what happens when an end breaks on one of the frames in the rear while he is working at the frame in the foreground, which is stopped to permit piecing up of a broken end.*

2. *While working on first frame, he turns head, spots broken end on the frame in the rear. (All Stark Mill frames are new Better-Draft Saco-Lowell frames, and the sequences in these pictures were staged for demonstration of the switch only)*

3. *It is absolutely necessary to stop the rear frame as soon as possible, and, without a centrally located switch, the operator must leave the first frame at once and proceed to the second one.*

New ROVING-FRAME Switch Saves Operator's Time

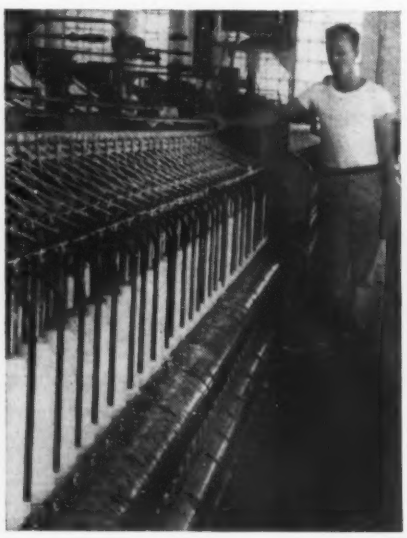
HIGHLIGHTS: *Stark Mill, of United States Rubber Co., Hogansville, Ga., installs central switches on new roving frames—Photographic story shows that installation on 3-frame set saves walking, reduces down time, and cuts waste.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

BY APPLYING individual and conveniently located start-stop switches to new roving frames at the Stark Mill, the United States Rubber Co. of Hogansville, Ga., has developed an ingenious time-saver for roving-frame operators and a means toward greater yarn cleanliness. Waste losses have been reduced by the use of the new switches, which are located centrally at each frame set.

The operation and advantage of such a central switch is shown graphically by accompanying pictures. The series entitled "Before" (1 to 7) de-

AFTER



1a. *With a three-frame set of roving frames equipped with a central start-and-stop switch (push-button type), the operator shows what happens when he has an end down on a frame in the rear, while he is working on the frame in foreground.*

2a. *He turns head as before, sees end down.*

3a. *Instead of walking to the second frame (maximum distance possible would be about 60 ft. on a three-frame set), he pushes button on switch located nearby. This immediately stops the frame in the rear. Operator can now finish his job in the foreground.*

4. *He gets there and pushes shifter rod which stops the frame.*

5. *He then clears away some of the waste around the broken end.*

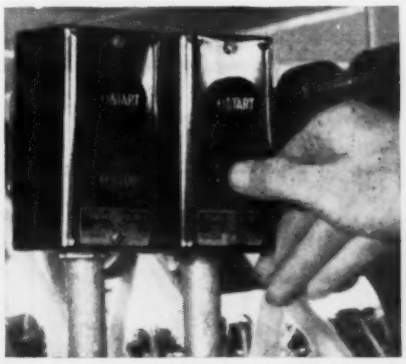
6. *Had the operator's attention been diverted from the second frame too long, the accumulated waste might have looked like this.*

picts the situation when shifter rods alone controlled the start-and-stop of each frame. The series of pictures entitled "After" (1a to 6a) shows the advantages obtained by the new central switches at the Stark Mill under the same set of circumstances.

While individually driven roving frames are becoming more prevalent in the cotton branch of the industry, few cotton mills have attempted to centralize switches on multiple-frame sets for convenience of the operator and greater cleanliness of product. The Stark Mill's shop crew installed the switches shown in the photographic story. The arrangement demonstrates that considerable gains can often be achieved with a very simple improvement.

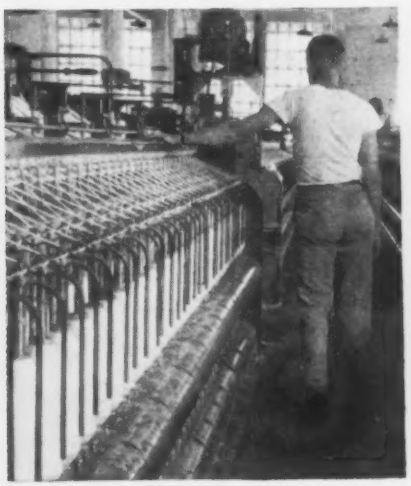
Photos by Mal Bowden, Southern Editor, TEXTILE WORLD

7. *Operator returns to the first frame to finish his original job. The first frame might have been started sooner, had it not been necessary for him to walk to the second frame before starting up the first one. Result: Loss of production from first frame.*



4a. *A close-up of the switch. Note that at this end of the set of frames, operator has two switches, each of which controls one of the two frames in the background. On the other end of the frame set, between the two adjacent frames in the background, operator has only one switch which controls the foreground frame; since when he is in the background area, the shifter rods are conveniently located for stopping the two frames in that area. Thus, Stark Mill uses a combination of conveniently located electric switches and shifter rods.*

5a. *Operator finishes his job in the foreground and restarts that frame.*



6a. *He then goes to the frame in the rear. Result: Operating time of the first frame has been increased by reducing interference time; second frame was stopped instantly, saving waste, reducing the necessary work, and eliminating obnoxious roving-frame fly which shows up in roving and yarn.*

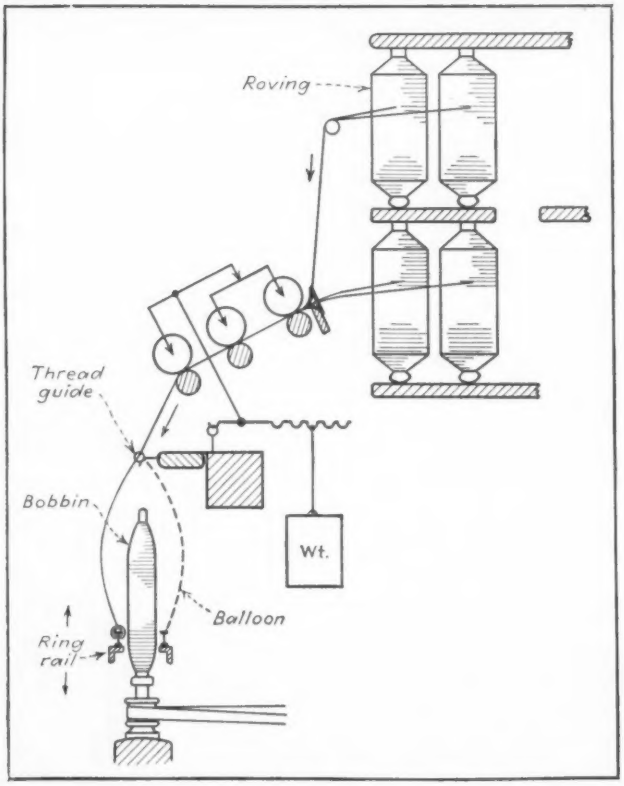


Fig. 1. Spinning-frame production can be increased by means of a speed-increasing drive.

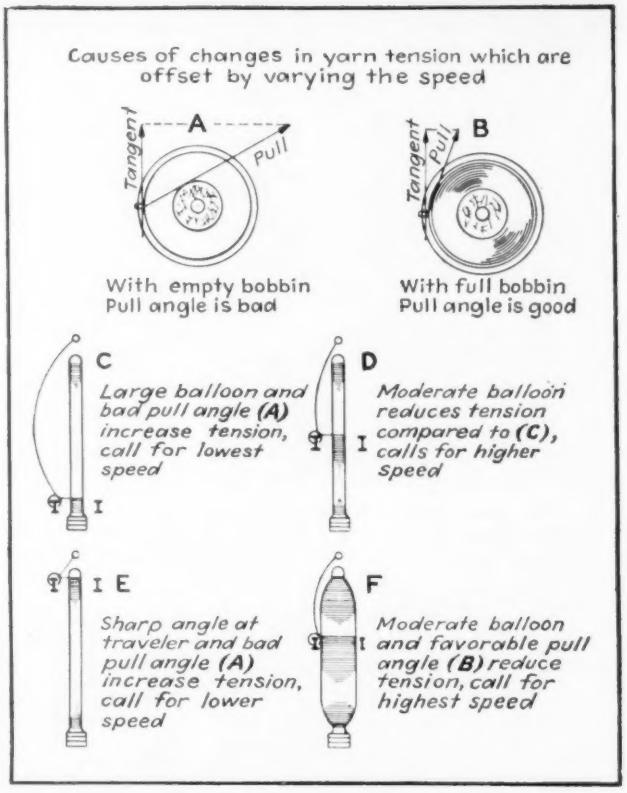

Causes of changes in yarn tension which are offset by varying the speed
A
Tangent
Pull
With empty bobbin
Pull angle is bad
B
Tangent
Pull
With full bobbin
Pull angle is good
C
Large balloon and bad pull angle (A) increase tension, call for lowest speed
D
Moderate balloon reduces tension compared to (C), calls for higher speed
E
Sharp angle at traveler and bad pull angle (A) increase tension, call for lower speed
F
Moderate balloon and favorable pull angle (B) reduce tension, call for highest speed

Fig. 2. Tension-variation elements illustrated in this drawing can be largely controlled by speed changes.

TENSION Controlled By Variety of Drives

HIGHLIGHTS: *Speed control is effective for yarn and cloth—Photo tube used for light cloth tension—Higher spinning production possible—Uniform moisture content also achieved by variable-speed drives.*

By A. P. MANSFIELD
Paper & Textile Div.
General Electric Co.

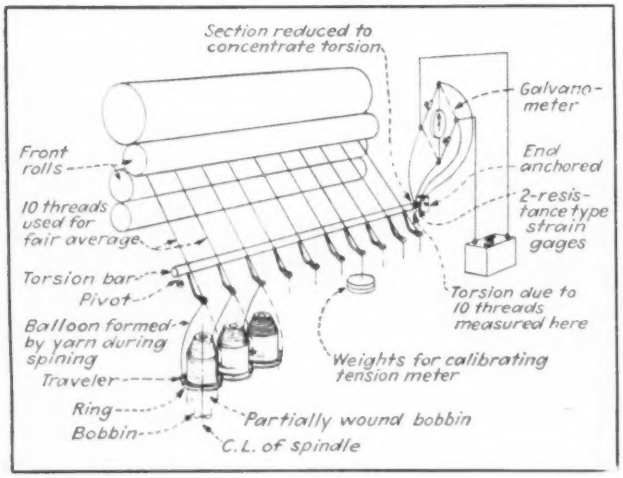


Fig. 3. Experimental set-up sketched measures variation in tension as spinning packages fill.

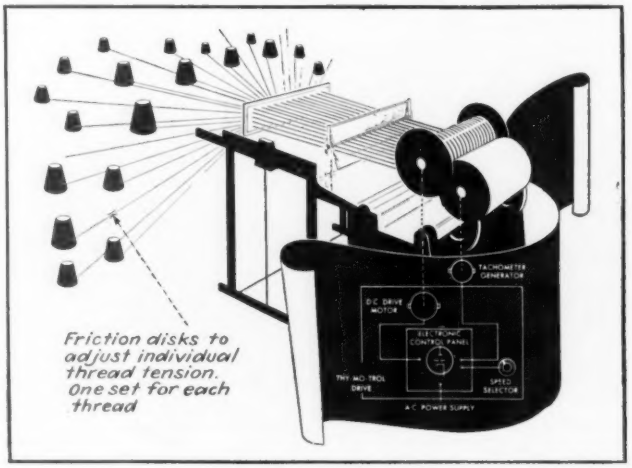

Friction disks to adjust individual thread tension. One set for each thread
TACHOMETER GENERATOR
D.C. DRIVE MOTOR
ELECTRONIC CONTROL PANEL
THY MO TROL DRIVE
SPEED SELECTOR
A.C. POWER SUPPLY

Fig. 4. Warper drive slows down rpm. of beam to keep yarn speed, and hence tension, constant.

YARN SPEEDS in textile processing range from a few yards per minute to several hundred. Fabrics are produced by weaving at speeds varying from ½ to 4 in. per min. and by knitting up to 20 in. per min. Processing and finishing speeds range from 50 to 300 yd. per min.

Regardless of the speed, tension-control problems exist through every phase of textile manufacture; they influence: (a) size and characteristics in forming yarn; (b) uniformity of twist in yarn; (c) evenness and texture of fabrics during formation and finishing.

In each process, the working tension should be held constant. However, since tension is only a small percentage of the yield point and yarns and fabrics are somewhat elastic, small deviations in tension may be tolerated without seriously impairing quality.

Textile mills currently are very much alive to the possibilities of automatic controls—particularly tension controls.

Automatic tension control is recognized as necessary to meet increasing demand for uniform products by the purchasing public, and to permit mill operation at higher speeds with controlled quality.

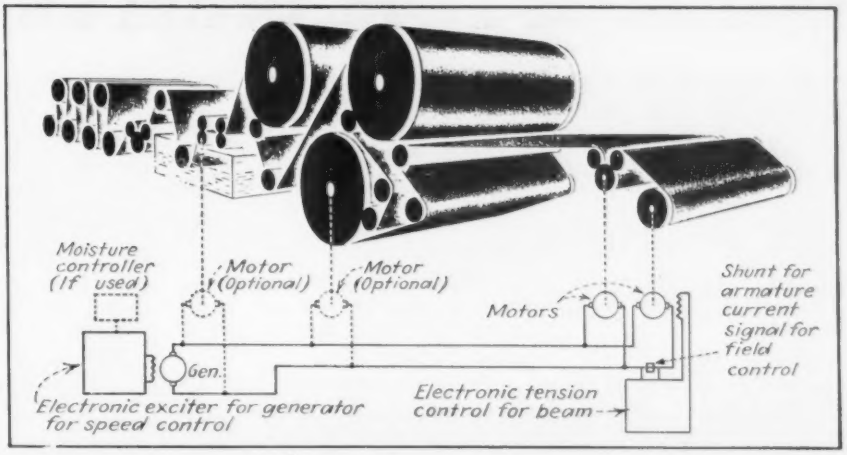


***Fig. 5. Slasher control** may be achieved by using two or more motors as shown here.*

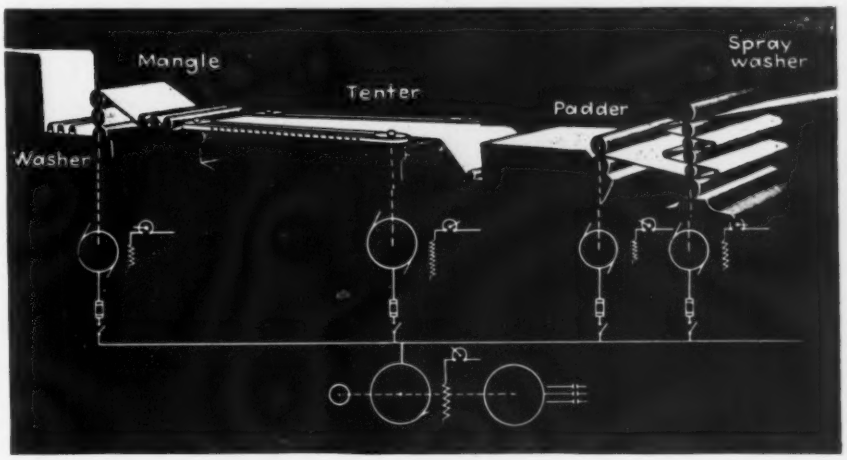


***Fig. 6. Range drive** shown utilizes the tenter as the lead unit. Speeds may range from 50 to 300 yd. per min.*

SPINNING TENSION. The speed of the 23,000,000 spinning spindles in the United States is constant and ranges from 6,000 to 10,000 rpm. depending on size of yarn, required twist, etc. The rate at which the fibers leave the front rolls may be 50 yd. per min.; so with an average bobbin diameter of 1½ in., slightly more than 1% of the spindle revolutions are needed to wind the yarn. The remainder produces the "twist" required to bind the fibers.

The tension in the yarn depends on the "drag" of the traveler on the ring, which in turn depends on its weight, its position and declination relative to the ring, and many other things.

As shown in Fig. 2, the tension is influenced by various factors such as:

(1) A and B, angle thread makes with bobbin

(2) C, D, E, and F, angle of thread combined with length of balloon. The actual tension may fall as much as 30% from beginning to end of doff.

It has been known for many years that variations in yarn tension could be compensated to a large degree by varying the speed of the frame, and the Brown-Boveri Co. of Switzerland devised a formula purporting to determine the speed of the frame to produce uniform tension throughout a complete doff. [T.W. Oct. '46, p. 106]

The tension in the yarn is not easily measured, since the twist must always extend back to the front rolls and bind the fibers at this point. But by mounting 10 thread guides on a rod, supported and mounted as shown in Fig. 3, the combined forces due to thread tensions can be determined with strain gages as indicated.

Calibration of the gage is based on the assumption that the average tension along the balloon is equivalent in magnitude and direction to that along the center line of the spindle, and can, therefore, be simulated by dead weights as indicated.

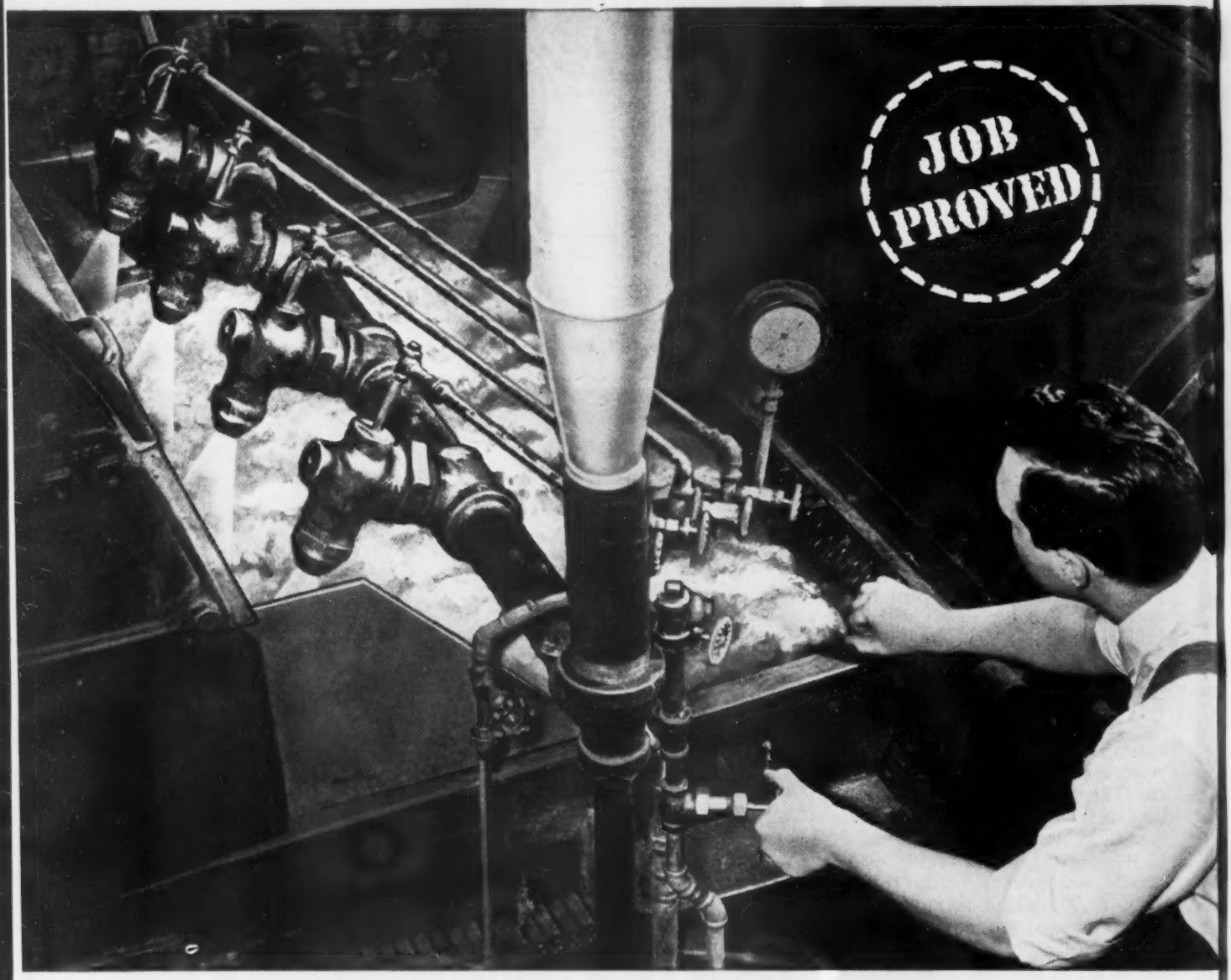
By equipping a photoelectric recorder with a suitable galvanometer, a complete record can be made of tension throughout a doff. Simultaneously, a speed record can be made on a similar recorder. Then with these records, a definite knowledge of magnitudes and rates of change of tension at constant speed can be determined throughout a doff. Similarly, the magnitude and rates of change in speed required for constant tension can be determined.

With constant speed, the maximum allowable tension determines the speed at the beginning of the doff. From then on the tension decreases, this reduction in tension being about 30%. Hence, by increasing the speed sufficiently to maintain constant tension, production can be increased and the quality of the yarn improved.

It is impractical to use the tension indication as a signal for automatic speed control, since any and all threads are likely to break. But the procedure makes it feasible to construct a "program" control which will closely approximate the operation dictated by the instruments. This control is applicable to any adjustable-speed motor with inherent regenerative braking.

WARPER TENSION. In weaving and warp knitting, constant warp tension is necessary to produce uniform cloth. Fig. 4 illustrates a rayon warper in which the individual-end tension is very low, say five grams. This tension is produced primarily by drawing the threads through small weighted disks but is augmented by ballooning and air friction accompanying high yarn speeds. Constant tension is secured by winding with constant yarn speed. Yarn speeds are adjusted to suit the size and type of yarn. Power requirements range from 1 to 3 hp.; and be-

Increased Yield, Better Yarn, Lower Cost



SUN TEXTILE PROCESSING AID . . .

Recommended by Eastern worsted manufacturer, who says, "I have never used a better product."

An Eastern worsted manufacturer was paying a premium price for a well-known type of processing oil, but found the wool hard to process and the yield disappointing.

He brought this problem to a Sun Engineer, who recommended Sunotex, a Sun wool-processing oil which is used in dozens of woolen mills. This "Job Proved" product was put to work and scoured out evenly and quickly. Its use resulted in much cleaner wool and better-conditioned yarn.

A saving of $2,000 a year was also realized, because of the difference in price between the Sun product and the oil formerly used.

"I have never used a better product for processing worsted stock," says the owner of the mill, after four years' experience with Sunotex.

More and more textile engineers are using Sun "Job Proved" processing aids and lubricants and getting results like those described above. If you are interested in the "Job Proved" Sun products that will help you produce more for less, write Department T2.

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INDUSTRIAL PRODUCTS

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cause of the relatively high percentage of friction, the load characteristic is more nearly constant torque than constant horsepower.

Here variable-speed drives (such as the Thy-mo-trol) are well suited. An adjustable-speed d.c. motor is coupled to the beam shaft. Armature voltage is adjusted manually to provide the desired thread speed, and the field strength is controlled to suit diameter build up.

Field control is accomplished with a signal from a tachometer generator coupled to the rider roll which, in turn, gives a direct measure of yarn speed.

Incidentally, the rider roll is necessary to secure uniform build-up of the warp, and being available, makes an ideal way of securing a speed signal.

SLASHER TENSION. Slasher tension can be controlled by controlling the input to the winding motor. Here, the yarn speed is regulated to provide a definite moisture content in the finished warp. The speed depends on the size of the yarn and is usually between 20 and 50 yd. per min.

The total power requirements range from 5 to 10 hp. and may be supplied by a single main-drive motor or a lead motor and two follower motors, plus a wind-up motor for the loom beam (Fig. 5). The friction load of the beam is relatively low; and hence the beam motor, by operating at constant horsepower, provides constant tension in the yarn throughout the winding operation.

An adjustable-voltage system with generator supplying power for all motor armatures provides a suitable range of speed by regulating the generator field. The regulation may be done manually or by automatic moisture control.

The wind-up motor field is controlled with electronic field supply to hold constant armature current with speed varying inversely with beam-diameter build-up.

With constant motor input, the losses and hence the efficiency are essentially constant. Therefore, the motor output is constant; and, hence, the yarn tension is also constant for any particular setting.

CLOTH FINISHING. The general classification "cloth finishing" embraces the various treatments applied to cloth after it is fabricated. These include: singeing, gas fired; bleaching, with chlorine or peroxide; washing, mangle or spray; filling, starch talc, etc.; drying, contact (cans), air, radiant; calendering; dyeing, jigs, continuous; mercerizing; printing, aging, developing; folding; winding, batching.

Formerly, these operations were per-

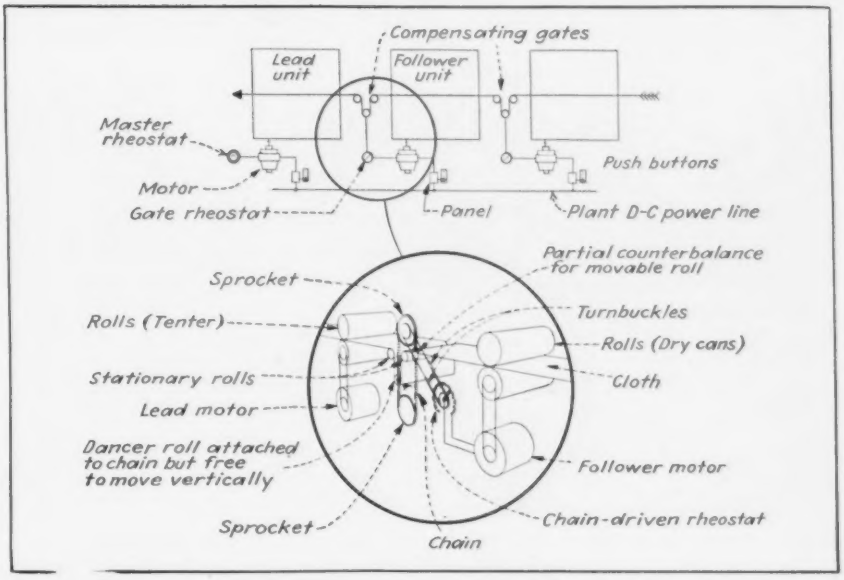


***Fig. 7. Adjustable-voltage system** of range control has basic speed adjusted through generator voltage.*

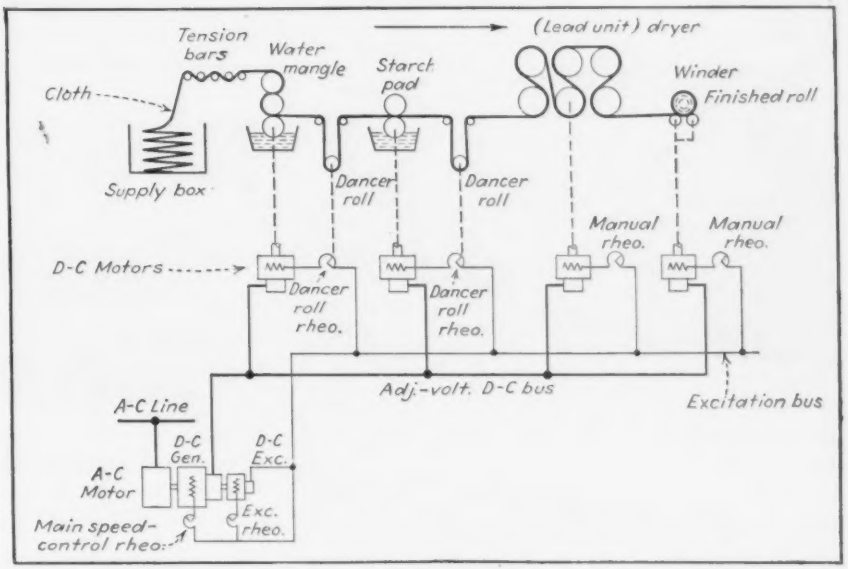


***Fig. 8. Adjustable-speed d.c. motor** drive illustrated operates wholly from field control.*

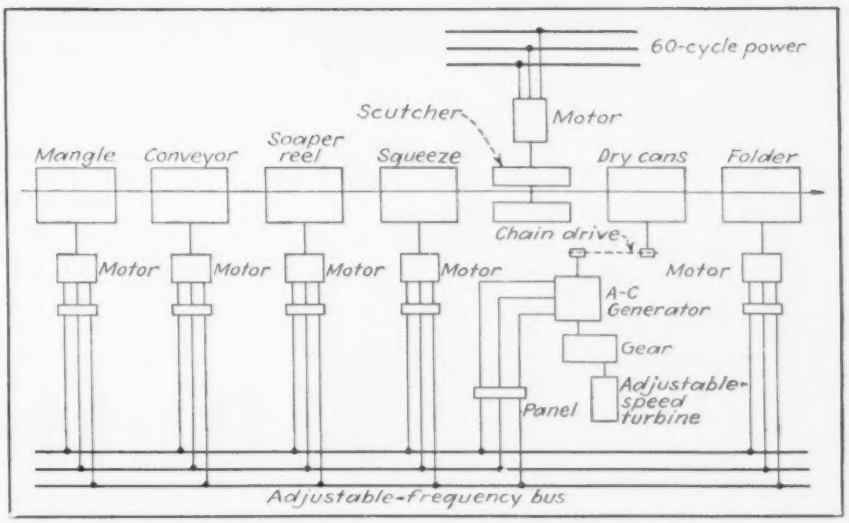
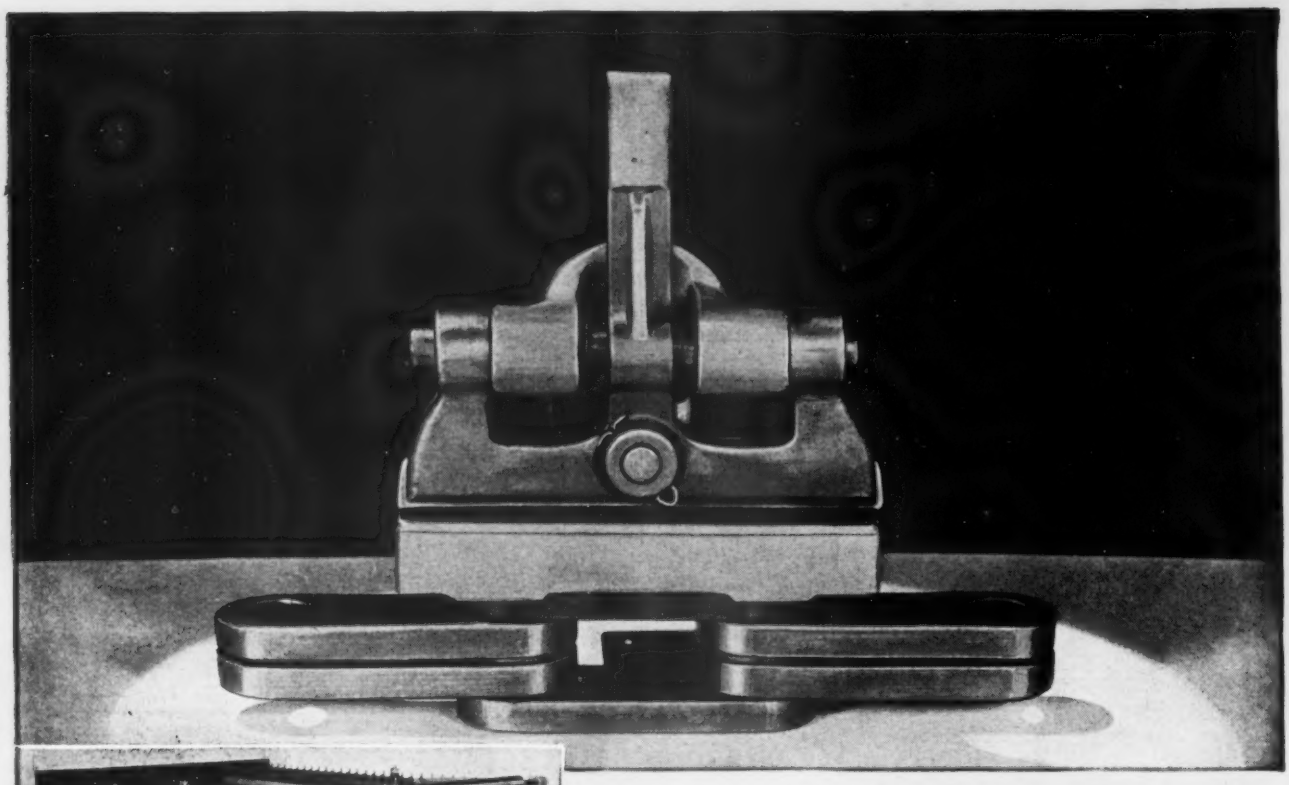
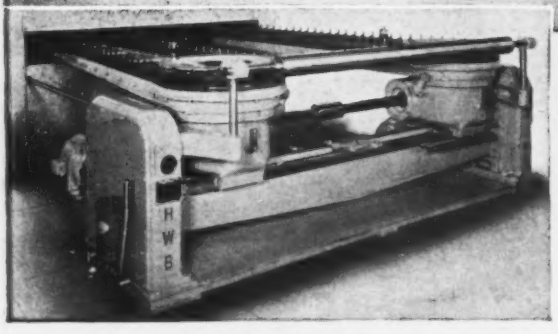


***Fig. 9. Turbine-electric drive** outlined here for soaping range uses only 5% of energy in the high-pressure steam.*





High Speed Tenter

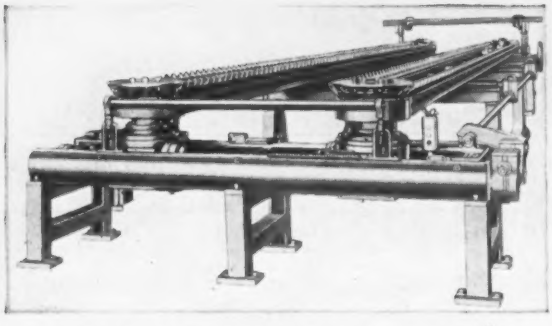
New "43" Chain Ends Tenter Slow-Downs

Now you can step up tenter speeds without fear of excessive vibration and wear. The new Butterworth "43" Tenter Chain gives you these important advantages:

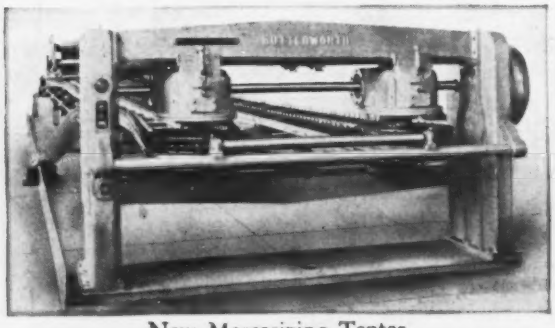
(1) No appreciable wear on parts of chain coming in contact with guides or covers—even at high speeds. Construction is hardened steel instead of malleable iron.

(2) Vibration practically eliminated—even at high speeds. The "43" is a 2-inch pitch chain, which minimizes impact loads and strains. Smooth, quiet running.

(3) Maintenance made easy—damaged clamps can be replaced by removing a single bolt with only a few seconds shutdown. Saves many a weekend job resharpening tenter chains or repairing breakdowns.



Standard Straight Automatic Tenter



New Mercerizing Tenter

The "43" Chain is now standard equipment on the three Butterworth Tenters illustrated. Can be installed on most early types of tenters, both Butterworth and Textile Finishing Machine, as well as other standard U. S. tenters. Let us quote on your requirements.

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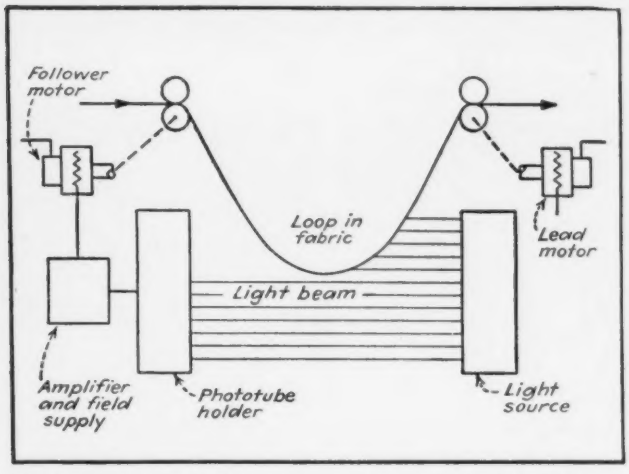

***Fig. 10. Loop control** is recommended for lightweight fabrics or any that require minimum tension.*

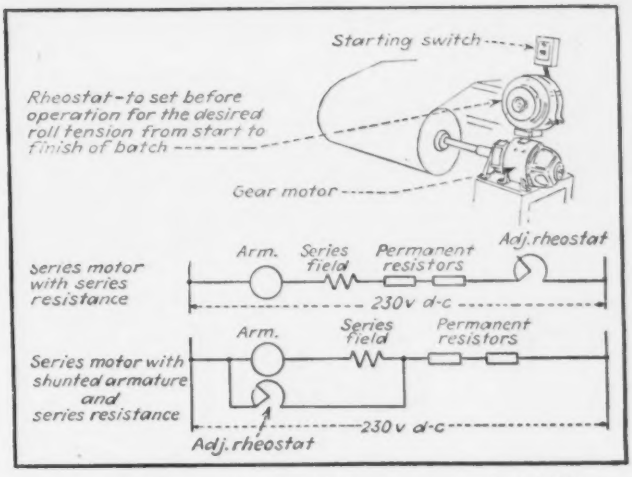

***Fig. 11. Batcher tension** should become progressively lighter as roll of cloth builds up.*

formed individually; but in modern practice they are conducted in sequence. The cloth passes in continuous lengths through one process after another. Such a finishing range is driven by a range drive.

Fig. 6 illustrates a typical range drive, in which the main or lead unit (center) is a tenter. Cloth enters it from the left after passing through a washer and mangle. The tenter brings the cloth to full width, after which it passes to a padder for further treatment and finally to a spray washer. The basic speed at which a range may be operated depends on the weight and texture of the cloth as well as the process it is undergoing. Finishing operations require speeds ranging from 50 to 300 yd. per min. and powers from 1 hp. to 100 hp. per unit.

In each of these treatments, the cloth may change length and the individual speeds have to be correspondingly matched. The drive must have a fairly wide processing speed range; also, a low adjusting speed of 10 yd. per min. must be provided for threading for brief periods. Throughout all finishing processes, close regulation of tension is important to preserve the uniformity of the cloth. Several types of range drives commonly used are here listed.

1. An adjustable-voltage system (Fig. 7) can utilize one constant-speed m-g set, usually with direct-coupled exciter and generator-field rheostat; one direct-current motor (constant-speed type) for each unit; one vernier field rheostat for each motor. Rheostats may be manual or chain operated from dancer rolls, depending on duty.

All armatures are connected to a common bus fed from the generator. Basic speed is adjusted through generator voltage by regulating the generator field. Fine adjustment is made by setting the lead-motor field rheostat. Vernier field rheostats may also be used in conjunction with the dancer-roll rheostats to position the dancer rolls.

Tension in cloth between units is held constant by dancer-roll rheostats acting to adjust speeds automatically to keep dancer rolls floating. Tension is then equal to one-half the floating weight. Soft motors, e.g., motors with about 20% regulation, are used. When the cloth has considerable strength (for example, cotton sheeting) and the tension during finishing rarely exceeds 10% of the yield point, dancer rolls may be eliminated and the drooping speed characteristic of the motor may be relied upon to change its speed sufficiently to avoid over-stretching by unloading or accumulation of slack by over-speeding.

2. Adjustable-speed d.c. motors, shown in Fig. 8, are suitable, when constant-potential d.c. power is available and when relatively small numbers of units are to be operated over a small (3-to-1 or 4-to-1) speed range.

Speed adjustments over the operating range is obtained wholly by field control. The range speed is set with the lead-motor rheostat, and the speeds of the follower motors are matched automatically with compensating gates (dancer rolls) actuating the field rheostats.

Tension is held constant by the floating gates as in example 1.

3. Adjustable-speed a.c. motors can be used when polyphase power is available and conditions similar to those enumerated in example 2 exist. Successful operation over a 3-to-1 range may be secured with brush-shifting motors. Here, the basic speed is set by adjusting the brushes of the lead motor. The speeds of the follower motors are adjusted automatically by gates operating directly on the brush-shifting mechanism.

Tension is held constant by the floating gates as in example 1.

4. Turbine-electric drives are often suitable. When high-pressure steam (90 lb. G. or more) is available and low-pressure steam (20 lb. G. or less) is required for processing, a steam turbine, either singly or in combination with a direct-coupled synchronous generator and induction-type follower motors, make a very satisfactory drive (Fig. 9). Actually the total power for driving the range consumes only about 5% of the energy in the high-pressure steam.

The turbine is mechanically coupled either directly or through the generator to the lead unit, and the synchronous generator is electrically coupled to the follower motors. The follower motors have drooping characteristics and act as soft motors regulating tension as described in example 1.

Almost any speed range can be obtained with this system, and all units are held in step by the frequency of the generated power.

At starting and stopping, the generator field is "forced" to provide extra motor torque and hold units of widely different load characteristics in step, even at very low frequencies.

LOOP CONTROL. Many delicate fabrics have very little strength, especially when wet, so that very little pull on them would elongate them warpwise and thus materially reduce the picks per inch. Such treatment would virtually ruin these fabrics. When such fabrics are finished, appreciable tension between units can be eliminated by allowing the fabric to form a loop and utilizing this loop as a means of controlling the speed of the follower relative to the lead unit. As shown in Fig. 10, the loop is used to intercept partially a beam of light directed on

(Continued on page 222)

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***Straight-line production** from cards (rear) to winders (foreground) is shown in this over-all view, taken as spinning was started.*

Woolen Spinning Unit Has BALANCED PACKAGES

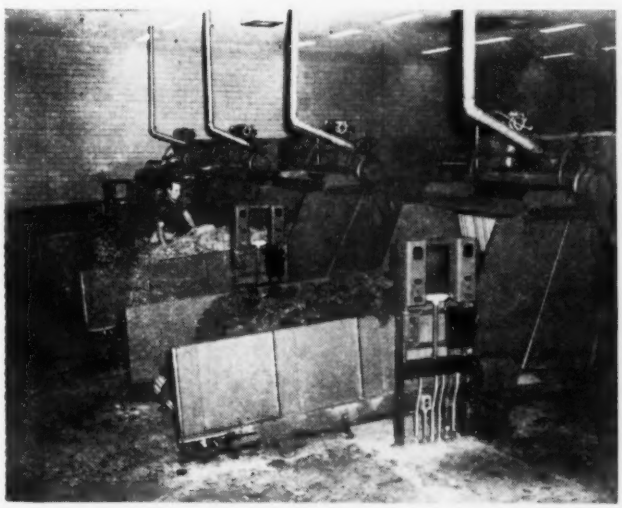
***HIGHLIGHTS:** Large packages featured in Lees spinning unit at Glasgow, Va.—Cards have long feed boxes, metallic clothing, and three drafting points on the condensers —Straight-line flow aids in reducing labor cost per pound.*

By FRED SMITH, *James Lees & Sons Co.*

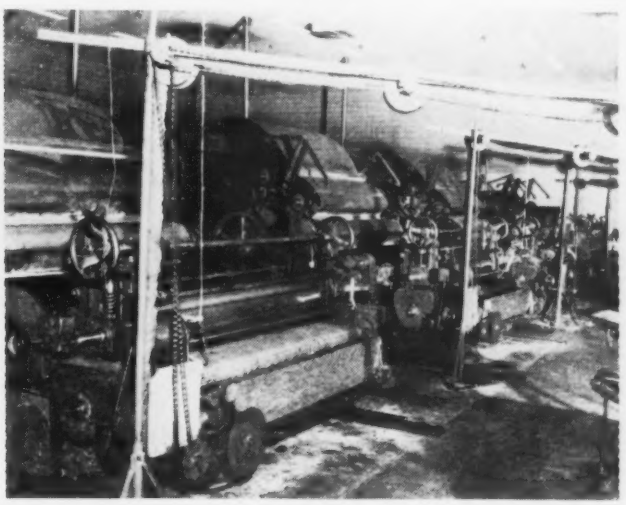
VARIATIONS FROM USUAL procedures in spinning wool carpet yarns are evident throughout the new spinning room in James Lees & Sons Co., Glasgow, Va., starting with the unusually long feed boxes used to feed the Proctor & Schwartz cards. These feed boxes are adjacent to openings in the wall dividing the spinning room from the blending room [T.W. July '47, p. 109], so that stock from the blending room can be moved into the spinning room and placed in the long feed boxes shown in illustration at the bottom of this page (left).

Both breaker and finisher cards are clothed with metallic clothing, and attached to the first card is a Peralta device for removing burrs and vegetable matter.

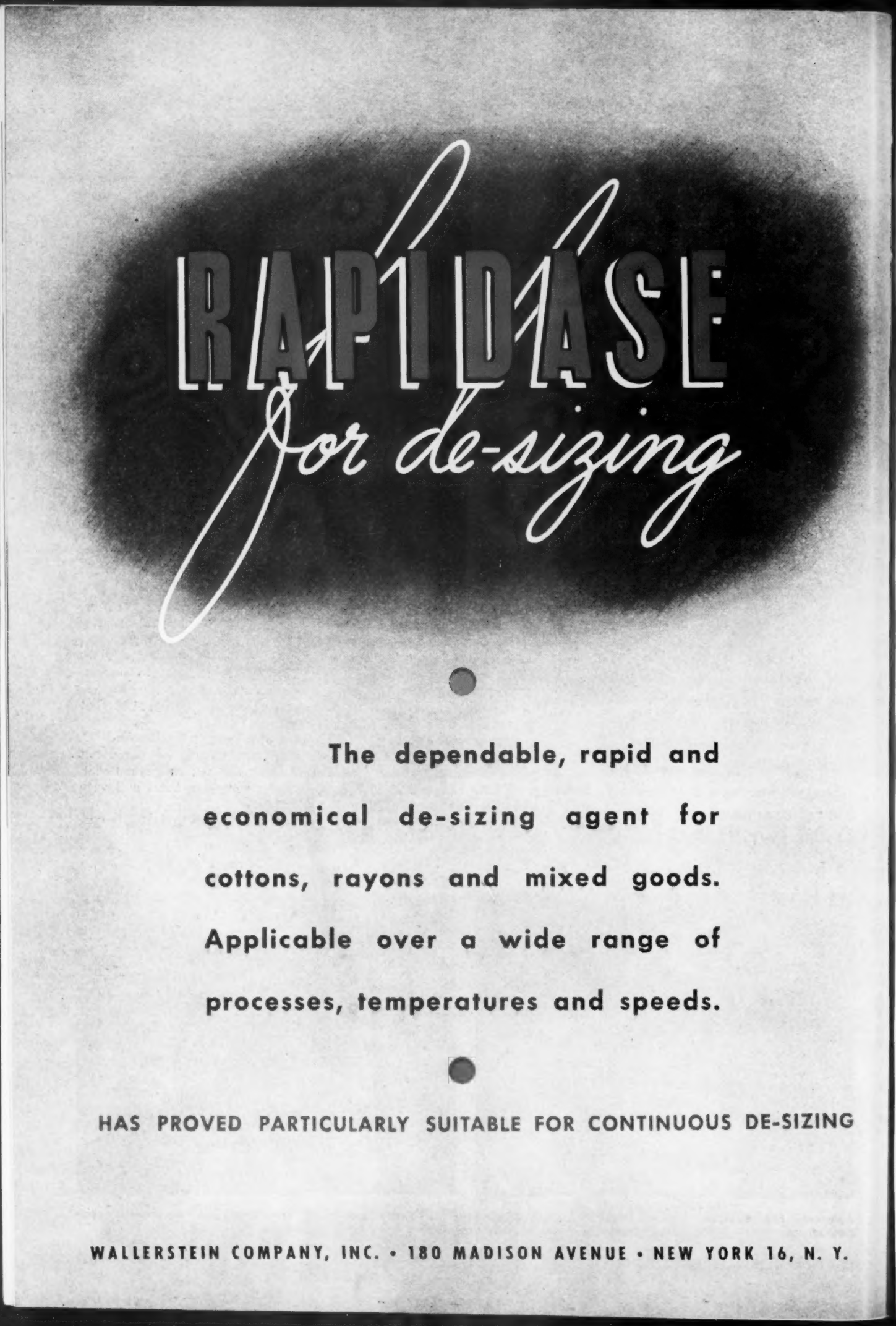
Four jack spools to take 16 ends each are mounted on each condenser,



***Automatic feed boxes** on cards are longer than usual. Blending room supplies wool to cards through openings in a wall to the left.*



***Peralta attachments** are used on Proctor & Schwartz cards equipped with all-metallic clothing.*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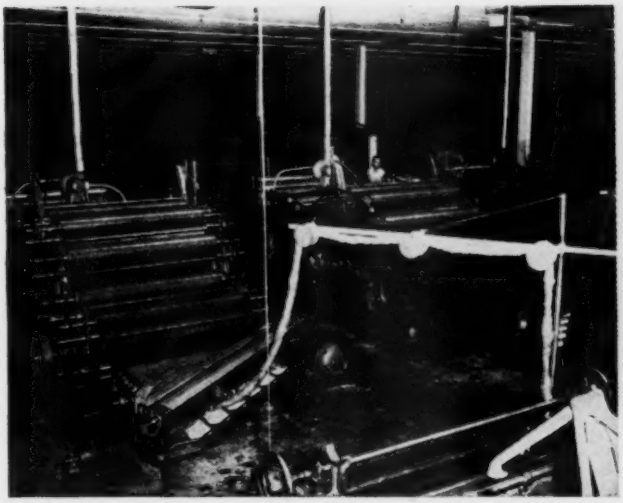
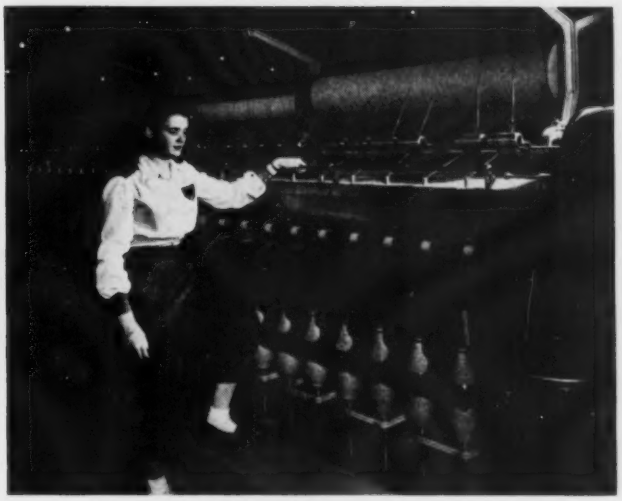


***Finisher cards** are adjacent to spinning machines. They have three drafting points (instead of two) and deliver to four jack spools.*



***A 16-oz. package** is produced on these new large-package Whitin spinning frames which are 7 1/2-in. pitch with 5 1/2-in. rings.*

taking the wool from two ring doffers for a total of 64 ends. The condenser has four rub aprons and has three drafting points on the condenser, instead of the conventional two drafting points. It is believed that the additional drafting contributes to a smoother yarn, particularly since this drafting is in the opposite direction from the drafting in spinning.

In the card sets at Glasgow, the breast is attached to the finisher card instead of the breaker card, which is also in the interest of making more even yarn.

Jack spools go to new Whitin spinning frames which have a 7½-in. pitch and a 5½-in. ring. Package produced on this frame is 16 oz.

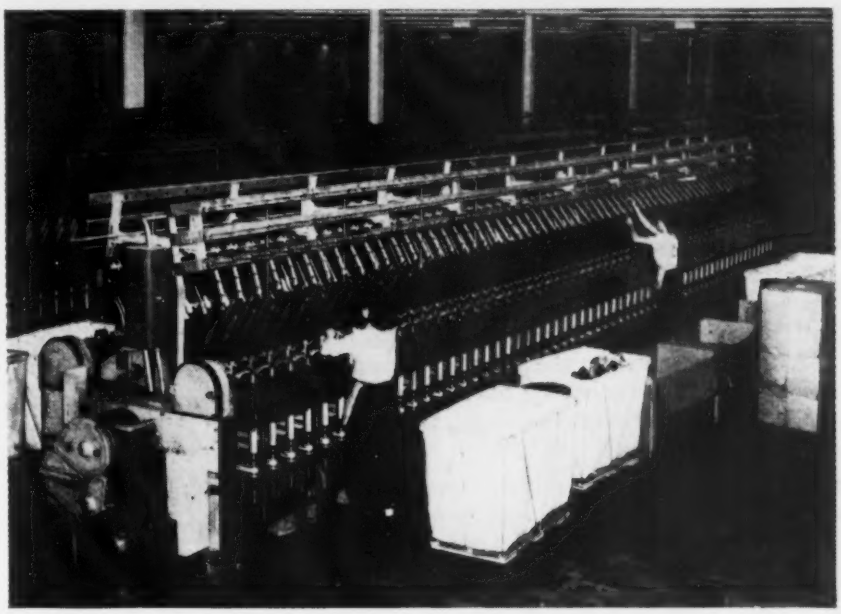
Spinning packages go directly without rewinding, to 7-in. pitch Prince-Smith twisters. These twisters have 6-in. rings and make a package 9 by 5½ in.

Spinners and twisters are balanced so that two spinning packages make up a twister package—without knots.

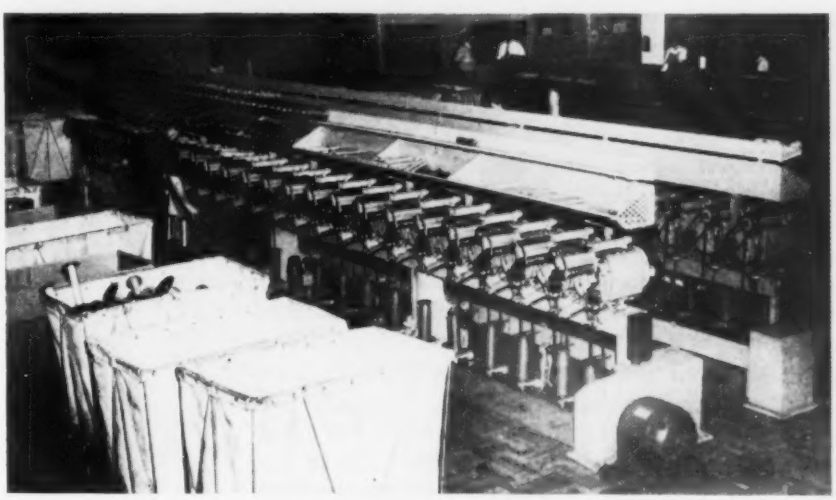
Winding which is done on No. 77 Foster machines, is also balanced, so that one twister package makes one winder package. The Foster machines can accommodate a tube diameter of up to 8 in.

Despite the fact that the Glasgow spinning room was started up with virtually no experienced help, cost per pound is low and continues to drop as workers gain experience and efficiency. As can be seen in the headpiece photograph, there is a straight-line flow from the cards through the winders. The flow to and from the spinning room is also in a straight line which eliminates back tracking.

[The building housing the spinning room is described in the July '47 issue of TEXTILE WORLD.—Ed.]



***Twisters** are balanced with spinning package so that two spinning bobbins make up one knotless twister spool. Machines are Prince-Smith, 7-in. pitch with 6-in. rings.*



***Winders**—Foster Model 77—can build up to 8x8-in. packages. One twister bobbin makes one tube.*

WOOL WEB STATIC TROUBLES *ELIMINATED*

An example of how textile static problems are being solved with the Ionotron Static Eliminator*

Static electricity no longer is a problem on the Peralta machines in the card room of F. C. Huyck & Sons' Kenwood Mills, Albany, N. Y.

There used to be plenty of trouble when the wool web came off the first breaker, where it picked up static and wound around the apron. The machines had to be watched constantly, and there were many stoppages.

Then Ionotron Static Eliminators were installed on the machines — at the point where static charges build up. Alpha radiation from the Ionotrons keeps the air ionized in the trouble zone, and the ionized air continuously conducts the charges to ground. Result: no more stoppages due to static!

Other textile applications — Developed only recently, the Ionotron Static Eliminator is proving its effectiveness in numerous textile mills. It has not yet been tried on all types of machines, but it promises to be the answer to static problems in many textile operations.

Important production advantages — Because it eliminates bunching, lapping and other difficulties caused by static charges in textile fibers, the Ionotron increases production by reducing the frequency of shutdowns. It also results in more uniform windings. It eliminates static problems in fabric-coating operations. It improves working conditions by permitting a substantial reduction of humidity.

Easy to install, permanently effective — With simple brackets and bolts, Ionotrons of suitable size can be installed on almost any equipment. Their action is continuous and permanent — yet there are no moving parts, no power connection, and no operating cost! There is no contact with fibers or fabric, and atmospheric changes do not alter the Ionotron's efficiency.

For details about employing Ionotron Static Eliminators on wool and worsted machines, write Davis & Furber Machine Co., North Andover, Mass. For information about any other textile application of the Ionotron, send a detailed description of the static problem to *Dept. L9, U. S. Radium Corp., 535 Pearl St., New York 7, N. Y.*

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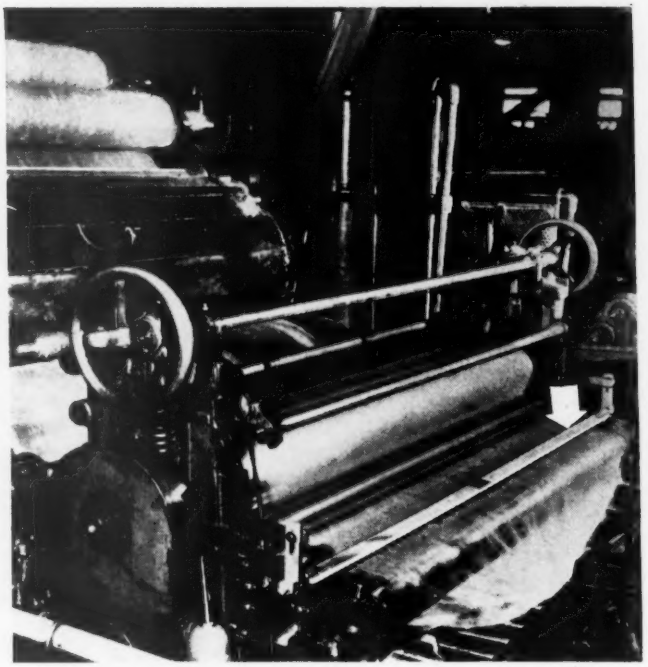


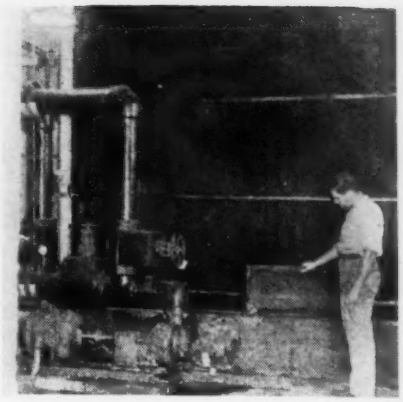
Arrow shows location of Ionotron Static Eliminator on one of Peralta machines at Kenwood Mills. Ionotrons, installed on all the Peraltas in the card room, prevent stoppages formerly caused by wool webs picking up static and winding around aprons.

U S RADIUM

IONOTRON

Static

ELIMINATOR



In this spray chamber of the Carrier central-station system, multiple banks of atomizing nozzles make a dense fog that saturates all the air passing through and cleans it before it is blown into the mill. After passing through this equipment, the air is blown into the ducts by a blower located at the other end of the room, not shown. George Norman, master mechanic, is shown removing one of the screens.

***Air ducts** near the ceiling in the knitting room have vents located on each side over the center of the aisle between the rows of knitting machines to provide a constant flow of air to maintain the proper temperature and relative humidity. All window openings were closed with glass blocks and fitted with venetian blinds.*

Refrigerated AIR-CONDITIONING *Pays in Half-Hose Mill*

***HIGHLIGHTS:** Carrier system at Spalding Knitting Mills installed for worker comfort—Higher production and efficiency were obtained as a "bonus"—Air conditions of 78° F. and 50% r.h. found to be best.*

By **E. DALTON WHITE**

Engineering for Comfort

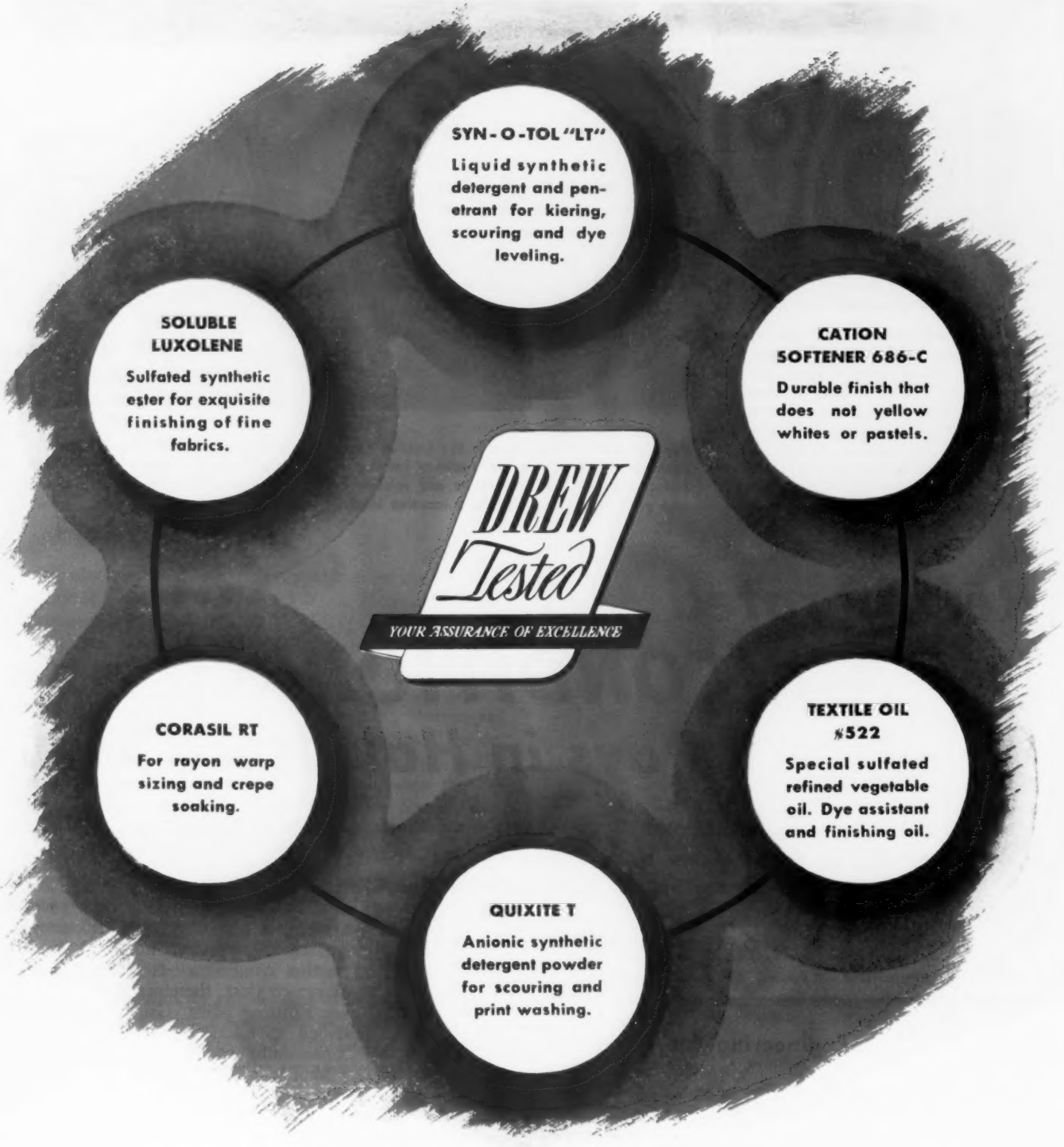
Engineering a modern, refrigerated-air-conditioning system requires that accurate data on all heat generation be obtained and considered. Before the system described in this article was installed, a survey was made to determine the amount of heat given off by the electric motors and machinery and also the amount of sensible and latent heat given off by the bodies of the workers under varying conditions of temperature and humidity.

At 80° F. temperature, the body of each worker engaged in light mill work creates 220 B.t.u. of sensible heat per hour and 530 B.t.u. of latent heat per hour. Thus, regardless of temperature and humidity, there is present a constant of 750 B.t.u. per person. As the temperature of the air increases, latent heat increases and sensible heat decreases. The main objective in conditioning air for worker comfort is to control the temperature and humidity at the best effective level; that is, at the degree of warmth or coolness that a person feels.

CONTROL OF TEMPERATURE and humidity has never presented a great problem in knitting and finishing half hose and anklets. Operations in mills doing this type of work have attained a high degree of efficiency and quality under normal yearly weather conditions. It was for employee comfort, therefore, that Spalding Knitting Mills, Griffin, Ga., installed its Carrier central-station air-conditioning system.

Shortly after the installation was made, however, there was a noticeable increase in efficiency and production, maintenance costs grew smaller, and many machine parts that had required frequent adjustments now needed adjusting only periodically. Many of the operating improvements were small, but they were worth-while; and employees became cognizant of the better working conditions at once.

The first phase of the installation was an evaporative cooling system that allowed maintenance of humidity as desired, together with some cooling effect. When equipment became available, the controlled refrigerating portion of the system was installed—thus giving both humidity and temperature control for maximum com-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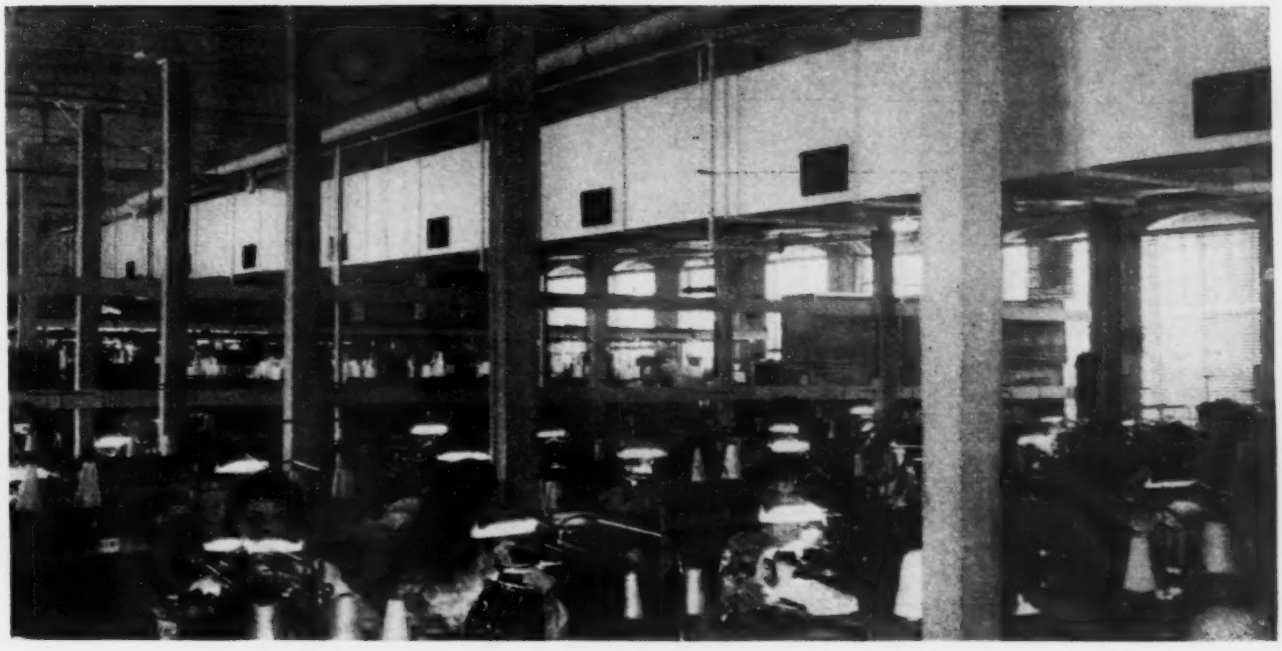


Air ducts extend from knitting room into the looping department.

fort, regardless of outside weather conditions.

BEST CONDITIONS. Experiments showed that best results were obtained with a temperature of about 78° F. with 50% relative humidity. With the refrigeration equipment, it is possible to maintain even conditions without raising to higher temperatures to dry out the air. If relative humidity rises above 50%, there is a tendency for machinery and equipment to rust.

One advantage that became apparent immediately was the cleanliness of the inside of the mill and the absence of dirt and soot spots on yarn and finished goods. All air is washed thoroughly before it is circulated through the mill; and an air pressure slightly higher than outside air pressure is maintained inside the mill by the circulating system, so that only a small amount of dust enters through the openings to the outside.

Since the system has been in operation, employee morale and individual efficiency have increased. Mill officials have not made studies as to the percentage of improvement in production and quality that is traceable to the controlled-air system, but the increase in worker efficiency has shown up in every department—knitting, transferring, looping, sewing, and finishing. While the system does not extend to the boarding room, large floor fans have been installed in this room to blow the air rapidly across the room and out through open windows.

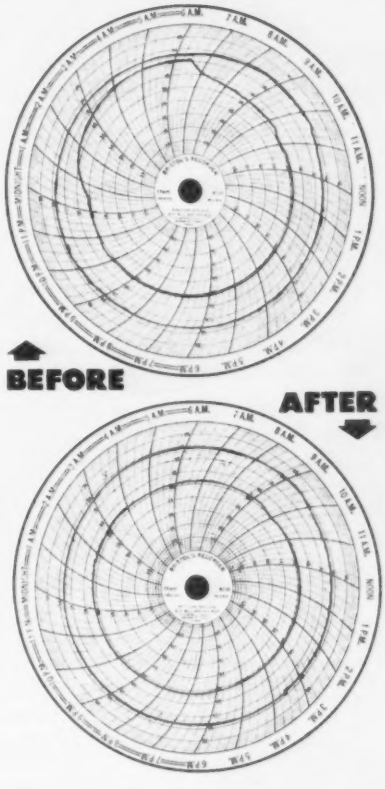
COMPRESSORS AND FAN. The evaporative cooling and refrigeration system consists of two 60-ton Carrier compressors and an American Blower H S fan powered by a multispeed Louis Allis induction motor. Steam copper-coil heaters are placed in each duct line at the point of entrance to each working area or department. The heaters, with volume dampers, act together to maintain constant temperature and humidity. Automatic instruments in each department maintain controlled conditions for each individual process.

Flexibility is obtained with this type of system. It is designed for cooling and dehumidification in summer and heating and humidification in winter. The evaporative-cooling system works only in the intermediate seasons.

So far, there has been practically no maintenance required by the system. A daily check is made of the equipment installed in a room in the basement. Machinery is oiled as needed. Periodically, the sediment collected in the bottom of the air-washer tank is removed to insure clean water with which to spray the circulated air.

Before the system was installed, all windows were closed with glass blocks, which also improved the inside appearance of the mill. Fluorescent lighting fixtures were installed in all departments except the looper room, where an individual fluorescent fixture on each machine provides adequate light intensity.

Cost of the installation, including plant improvements, was about $50,000; but R. P. Shapard, Jr., president, says that it has paid off in employee comfort, and any increase in operating efficiency is an added bonus.

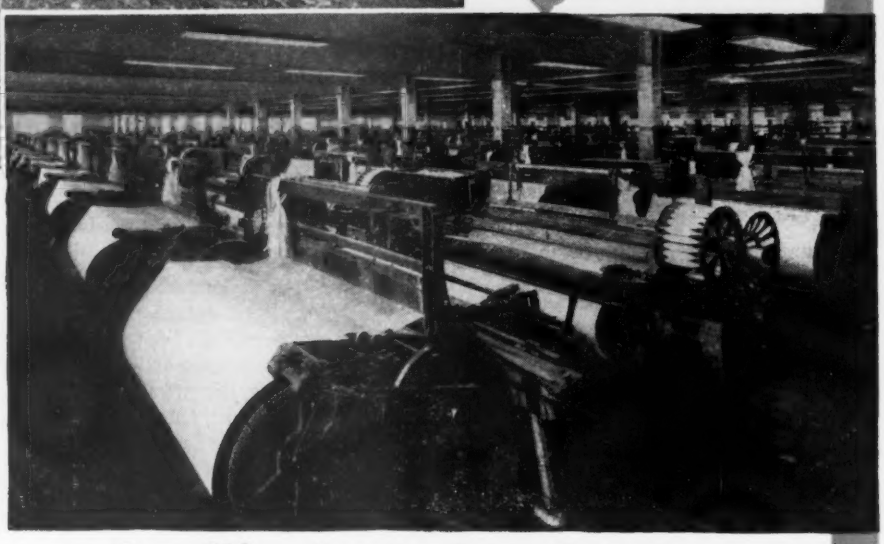


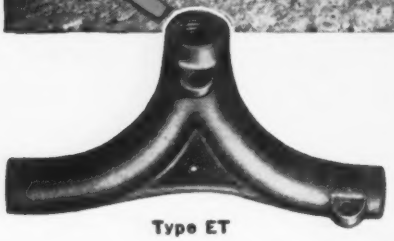
***Temperature and humidity** conditions over a 24-hr. period are shown by the chart at the top. Note the sharp rise in humidity shortly after midnight when the dehumidifying equipment was shut off at the end of the second shift; relative humidity rose to 70% but quickly returned to 50% after the equipment was turned on again before the start of the first shift. After some experimenting, the mill decided to maintain temperature and humidity control throughout the 24-hr. period, as indicated by the chart at the bottom.*

CROUSE-HINDS Large Radius Tees and Elbows . .

An electrical conduit installation using Crouse-Hinds Large Radius Type ET Tees in a mill before the concrete floor has been poured.

The same mill completed.





Type ET

Type ELB

Type EY

. . . simplify electrical conduit installation in concrete floors

Where electrical conduit is concealed the use of Crouse-Hinds Cast-Feraloy Large Radius Tees and Elbows results in substantial savings in installation and in maintenance.

Saves Material. These *CONDULETS eliminate the necessity for flush floor boxes.

Easy To Wire. The wires can be brought directly up to junction CONDULETS or motor controllers, where it is easy to make the necessary taps and splices.

Maintenance Reduced. Taps and splices are out of reach of oil, water, or cleaning solutions that may be on the floor, completely eliminating future difficulties from this cause. If necessary, any portion of the sectionalized circuit between two tees can be readily replaced.

Crouse-Hinds Large Radius Tees and Elbows are equally useful for ceiling and sidewall outlets. These CONDULETS are made of cast Feraloy, which is inherently corrosion-resistant. The hubs have the CONDULET features of tapered threads and integral bushings, designed for easy fishing. Lugs are provided for anchoring to concrete forms.

These CONDULETS are listed on Page 14, Section 65, CONDULET Catalog 2500. The complete CONDULET line consists of thousands of items . . . . engineered to enable the electrician to do the job and do it right.

*CONDULET is a coined word registered in the U. S. Patent Office. It designates a product made only by the Crouse-Hinds Company.

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CONDULETS
FLOODLIGHTS
TRAFFIC SIGNALS
AIRPORT LIGHTING

A sagging web in staple-rayon carding may be overcome by raising the doffer comb or increasing the speed of the calender roll.

TABLE I
Denier Comparisons of Staple Rayon and Cotton

1.00 den. approximates Sea Island
1.25 den. approximates Egyptian and Pima
1.50 den. approximates American
3.00 den. approximates China and coarse Peruvian
5.50 den. approximates coarse Indian

From New Rayon Book

This article is condensed from the forthcoming book, "RAYON TECHNOLOGY-- *Handbook for Mills*," being published this winter by McGraw-Hill Book Co., Inc.

TABLE II
Recommended Spinning Limit of Each Denier Coordinated With Various Lengths

Denier and length	Recommended spinning limit
1.0 den., 1 9/16 in.	100/1
1.25 den., 1 7/8 in.	70/1
1.5 den., 1 in.	40/1
1.5 den., 1 9/16 in.	50/1
1.5 den., 2 in.	60/1 to 65/1
3.0 den., 1 1/4 in.	18/1
3.0 den., 1 9/16 in.	22/1
3.0 den., 2 in.	24/1
3.0 den., 2 1/2 in.	26/1
5.5 den., 1 in.	Not satisfactory in 100% form
5.5 den., 1 9/16 in.	10/1
5.5 den., 2 in.	12/1
5.5 den., 2 1/2 in.	14/1

Cotton System Easily Adapted to RAYON STAPLE

HIGHLIGHTS: *Picker action modified to give opening only—Revolving-flat card is best type for staple rayon—Removal of small amount of waste is advantageous—Speeds and settings vary with fiber denier and length.*

RAYON STAPLE is subjected to opening treatment by the producers, and it is not necessary to subject it to severe preliminary opening similar to that used for cotton. It is well, however, to pass the stock through hopper feeders prior to processing, so that the lumps caused by baling pressures can be removed. It is also advisable, where space permits, to pass the stock through hopper feeders prior to conditioning, since opened stock equalizes its regain in much less time than stock in bale form. If space does not permit the conditioning of mildly opened stock, the stock should be allowed to condition in layer form from 10 to 12 hr. It is an advantage to provide space for opening as many bales as possible so that cross blending of the bales may be accomplished after conditioning.

The stock should be conditioned at 55 to 60% r.h. and 75° to 80° F., if possible, before processing. This does much to eliminate troubles due to static, etc.

PICKING. Since it is obvious that staple rayon needs no cleaning, beater speeds should be quite low in order to prevent excessive fiber breakage and nep formation. Speeds of 550 to 700 rpm. have been used on all types of rayon staple including 1.0 through 5.5 den. in lengths from 1 to 2½ in. Experiments have also revealed that higher speeds not only increase the neps but also result in fiber breakage. If, in specific cases, it is not feasible to reduce the beater speeds to this extent, the feed-roll-beater setting should be wider than is normally used. Two passages through the beaters are usually sufficient.

The type beater considered best for rayon staple is the pin-type or Kirschner beater. The blade beater if set properly and used in the first section of the picker has been satisfactory, although a good many mills have adopted the Kirschner beater throughout the picker. Porcupine or Buckley beaters have not been satisfactory, particularly on the fine deniers, since they tend to cause the fibers to become stringy which results in excessive fiber breakage at the card.

SETTINGS. Feed - roll - beater settings for various lengths are listed below when using Kirschner beaters operated at low speeds. These settings are not necessarily ideal in every installation.

Staple Length	*Setting in Inches*
1	1/8
1¼	5/32
1 5/8	¼
1⅞	3/8
2	⅜
2¼	7/16
3	½

It is sometimes necessary to increase fan speeds up to 1,400 rpm. in order to have proper distribution of the stock on the screen. If fan speeds are too low, the resultant lap will be more likely to split when it is unwound on the card.

Many mills have removed or covered their grid bars with solid sheet metal to prevent fiber loss. This is not considered necessary, since the grid bars can be so adjusted that only very small losses will occur. At the same time, better distribution of the air currents will be maintained. Perforated sheet metal has also been used; but if it is to be satisfactory, it must be perfectly constructed. Even then, fibers tend to hang in the holes and will eventually disturb the flow of air currents.

(*Continued on page 230*)

Gaylord Boxes

MINIMIZE Your Shipping Risks . . .

Rough handling of your packaged product is an ever-present hazard.

But no matter how you ship—by rail, truck or air—Gaylord provides an extra margin of safety due to correct functional design, better materials, and precision manufacturing.

To minimize your shipping risks—insist on *packages by Gaylord.*

- Corrugated and Solid Fibre Boxes
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141

BAUSCH & LOMB OCCUPATIONAL VISION TESTS
WITH THE ORTHO-RATER

NAME Mary Doe NO —
DEPT Greige JOB Looper
AGE 33 M F ✓ WH ✓ N EXP 1 yr
EMPLOYEE STATEMENT Wears glasses for work
DATE 12-20-47 TESTER — CLERK —
NOTE

USE HOLES AND SLOTS AT THE EDGE OF THE CARD FOR MECHANICAL BLOCK AND TWEEZER-DEXTERITY TESTS. EACH NUMBER AT BLOCK EQUALS THE SCORE ON ONE TEST.

VISUAL PERFORMANCE PROFILE

FAR

NEAR Glasses

USE THIS PROFILE CHART FOR INDIVIDUAL ANALYSIS. A LINE DRAWN THROUGH THESE NUMBERS INDICATES THE SCORE ON EACH TEST.

BAUSCH & LOMB OPTICAL CO
CATALOGUE No. 71-21-45
ROCHESTER, N. Y.

Twelve visual skills are tested by the Ortho-Rater and recorded on this card. The numbers in the horizontal lines represent degrees of skills. For example, on this test Mary Doe scored 7 in the test of "far" vertical phoria (focus point of eyesight), as indicated in the first line of numbers. The numbers marked out (X, 1, and 9) represent degrees of skill unacceptable in an applicant for looping. In actual practice, these numbers are not marked out on each card, but are blocked out by a celluloid sheet which, when placed over the card, masks out the unacceptable numbers.

Note that Mary Doe passed all the visual-skill tests except the last two—vertical and lateral phoria at "near" distance. She wears glasses at work. Apparently, the lenses of her glasses are not exactly right for her present work, since the vision of her right and left eyes does not cross (and seeing is not done) within the range averaged by the whole group of loopers.

Mary Doe is already employed by Shannon, and therefore these test results will be given to the eye doctor whom she is accustomed to consult.

TESTING for APTITUDE
Promises Efficiency and Savings

HIGHLIGHTS: ***Shannon Hosiery Mills, Columbus, Ga., finds 20 to 25% of full-fashioned mill applicants have unsuitable vision—Local eye doctors take part in industrial-vision program—Mechanical-block and tweezer-dexterity tests fail 10% of applicants.***

By P. M. THOMAS, *Associate Editor, Textile World*

A SOUND PROGRAM of selecting employees to train for various jobs is showing gratifying results at Shannon Hosiery Mills, Columbus, Ga.

Recognizing that a wrong guess in selecting a trainee (for full-fashioned knitting, for example, which normally requires a training period of 1 to 2 yr.) was expensive, the management tried to eliminate as far as possible the guesswork connected with hiring employees. In addition to the standard "screening" precautions of a written application, a personal interview, a physical examination, and a demonstration of the job, four specific aptitude tests were added to the qualifying routine in order to: (1) weed out applicants whose aptitudes were below the "normal" of those of the present employees, and (2) permit the personnel department to assign acceptable applicants to jobs for which the applicants' aptitudes are sufficient.

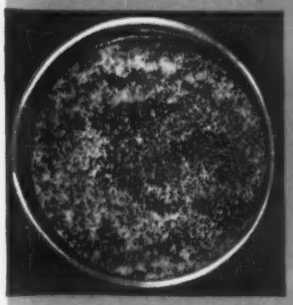
While the program is aimed primarily at selecting new employees, every employee in the mill was given the four aptitude tests in order to arrive at standards of acceptance or criteria. Thus, the criteria are based upon the aptitudes of workers actually performing the jobs in the various categories. By breaking down the results obtained in these present-employee tests on the basis of efficiency groups, it is possible to predict somewhat possibilities of the applicant.

PROBABLE RESULTS. Although the program has been under way only one year and long-range results are not yet clear, the indications are that it will serve three useful purposes:

1. Raise the efficiency standards of the new employees hired
2. Improve the efficiency standards of the present employees by finding their weak spots and aiding them in overcoming these deficiencies
3. Save money by eliminating misfits and stepping up the average efficiency of the working force.

The routine at Shannon consists of

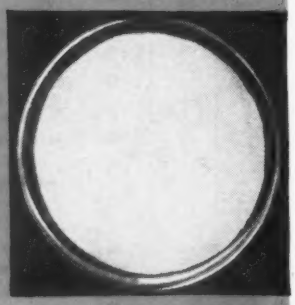
The bugs can be...



→ in

or

out →



DOWICIDES make the difference!

You can keep bacteria and fungi out of your operations—stop the losses they cause—with Dowicides, Dow's effective control agents.

Dowicides are doing a big job in the textile industry. For example, sizing solutions are particularly subject to damaging attack by mold and bacteria. The use of Dowicides prevents decomposition of these solutions, and protects the sizing from mildew while in storage. Dowicides also prevent the bacterial breakdown of soluble oil emulsions.

Where fungi and bacteria are the cause of operational difficulties the Dowicides should be considered. We would welcome the opportunity to discuss their applications with you—merely write to Dow.

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DOWICIDES

germicides and fungicides

CHEMICAL COMMENTS

MORE AND MORE JOBS FOR DOWFLAKE

Dowflake (Dow's convenient flake-form calcium chloride) has long been well known and valued in Portland cement concrete construction and for making gravel or similar type roads firm and dustless. But many and diversified are its other applications. It dust-proofs and freeze-proofs coal. It serves as a refrigerant in the frozen food industry as well as in leading warehouses and ice plants, where it circulates freely at sub-zero temperatures and reduces operating and equipment costs. It acts as an anti-freeze in fire barrels. And now it is more and more in demand as a de-humidifier of damp basements, game rooms and storage areas. Dowflake is a real career chemical!

50 YEARS WITH BROMINE

The first products manufactured by Dow over 50 years ago were the bromides—and today over 100 bromine products, both organic and inorganic, are being produced for use by many and varied industries. The story of these interesting chemicals and their properties make up a new booklet entitled, "Bromine and Bromine Products." A copy may be obtained by writing the nearest Dow office.

METHOCEL IS OUR "GOOD MIXER"

Methocel (Dow Methylcellulose) is soluble in water, and yields neutral solutions in a wide range of viscosities, varied to suit many diversified applications. Many industries, including paper, paint, leather, textiles and cosmetics, utilize Methocel's widely applicable properties which make it ideal as a dispersing, thickening, stabilizing, emulsifying, binding and coating agent.

Additional information about any of these products is available on request.

Dow

CHEMICALS INDISPENSABLE
TO INDUSTRY AND AGRICULTURE

four steps. First, a blank application form is given the applicant to fill out. Questions on this form ask only for general personal information, such as name, age, educational background, and working experience. The filled-in form is turned over to the personnel manager who reads the applicant's answers and determines roughly whether or not the applicant is desirable. The personnel manager has on file active requests for employees from the plant foreman. If the applicant shows promise of filling any job for which there is a request, he advances to the second step toward employment.

The second step consists of an interview with the personnel manager. This interview is relatively lengthy, and detailed information on the background of the applicant is obtained and recorded. The applicant may be eliminated as a result of this interview.

The third step consists of a short visit to the job in the mill that the personnel manager thinks the applicant will fit. At the job, the applicant is introduced to the foreman and one of the operators. He is at liberty to watch the operation, spend a few minutes with the operator, and talk as long as he likes with the foreman. At this point, the foreman indicates his acceptance or rejection of the applicant to the personnel manager.

If the applicant passes all these screening tests, and also a physical examination by a doctor, he takes the fourth step, the four aptitude tests. These tests, in the order that they are given, are: (1) eye tests, (2) mechanical-block test, (3) tweezer-dexterity test, and (4) block-manipulation test. The series requires about 1½ hr.

Dexterity, mechanical judgment, and mental reaction are observed during the mechanical-block test.

Steadiness, precision, and dexterity are required to make a high score in the tweezer-dexterity test.

Speed and coordination are measured by the block-manipulation test.

EYE TEST. From 20 to 25% of the applicants who pass the screening tests fail the eye test. This test is given with the Ortho-Rater, an instrument made by Bausch & Lomb Optical Co., Rochester, N. Y. This instrument, basically a Brewster stereoscope, tests twelve visual skills:

1. Acuity for both eyes
2. Acuity for the right eye
3. Acuity for the left eye
4. Lateral phoria (point where the vision of the two eyes crosses and seeing is done)
5. Vertical phoria

(These five tests are given for both distant and near points.)

11. Depth perception
12. Color discrimination

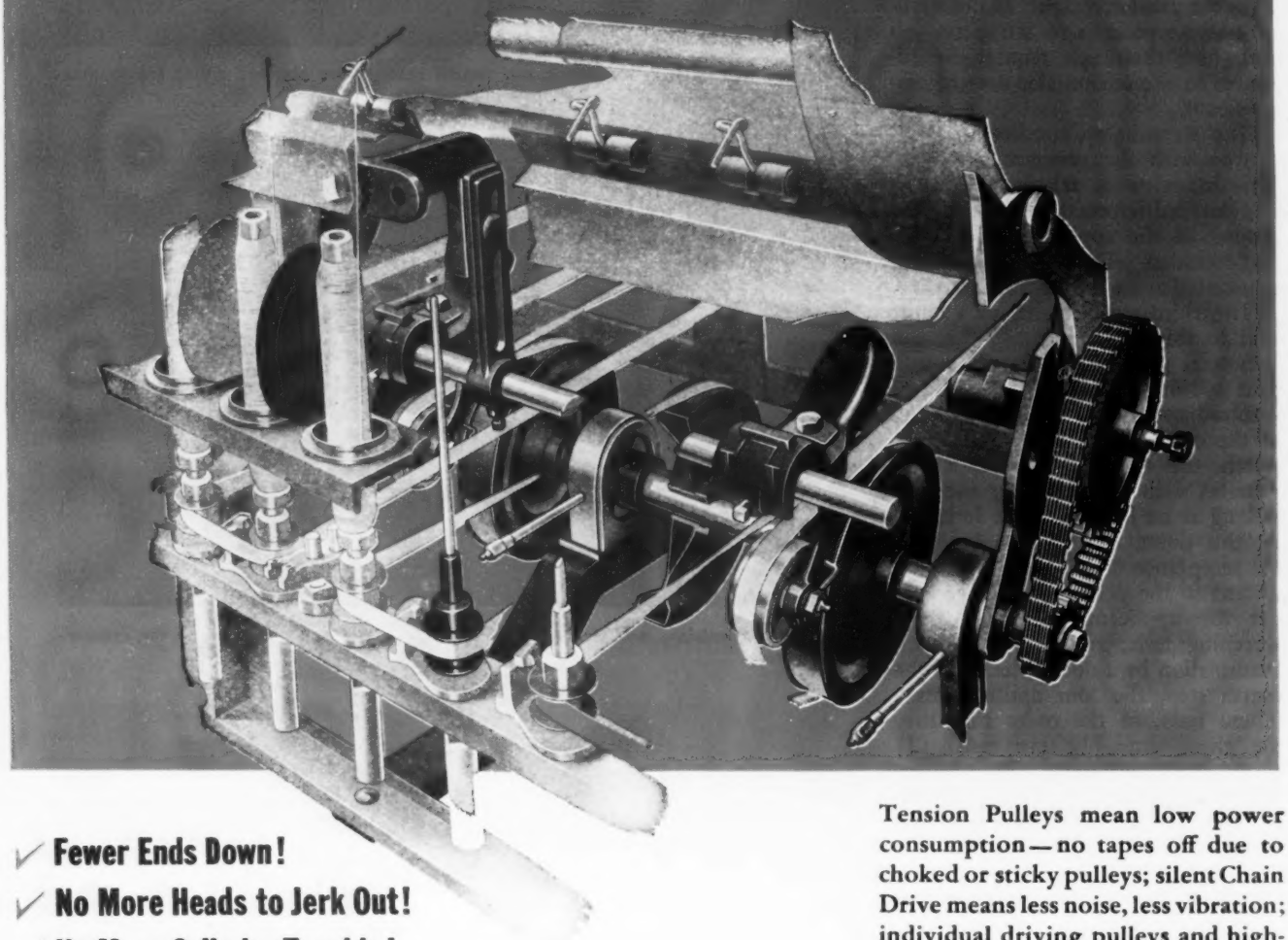
The slides used for testing are so designed that the results of each test can be expressed as a number. The test card, known as a Visual Performance Profile, is a printed form having a line of numbers for recording the result (value) of each test. The number in each line that indicates the visual skill of the applicant being tested in one of the twelve tests is circled with a pencil. When the test is completed, one number in each of the twelve lines of numbers has been circled.

Upon this visual profile of the applicant is a celluloid sheet showing the average profile for the present employees of a certain type of job—knitting, seaming, looping, etc. The substandard numbers on the average profile are blocked out, and the personnel manager can tell at a glance if the applicant's vision has failed any of the twelve tests.

Since each job classification has a different average profile (meaning, for example, that knitters may have average visual skills different from those of seamers, boarders, sweepers, etc.), an applicant may not possess the visual skills required for one job but may be acceptable for another job.

(*Continued on page 226*)

MODERNIZE Old Frames with MEADOWS Conversions!



- ✓ Fewer Ends Down!
- ✓ No More Heads to Jerk Out!
- ✓ No More Cylinder Trouble!
- ✓ Less Vibration!
- ✓ Uniform Speed and Twist!
- ✓ Better Package-More Yarn!
- ✓ Smoother Operation!

• LET one of our representatives show you how a Meadows Conversion will increase production on your old model band-drive frames, and eliminate cylinder trouble for keeps. Works equally well on frames that are already tape-driven.

Light-weight, solid aluminum alloy Separators mean less wear on yarn while being spun; Ball Bearing Tape Tension Pulleys mean low power consumption—no tapes off due to choked or sticky pulleys; silent Chain Drive means less noise, less vibration; individual driving pulleys and high-strength, ground and polished shafting, mounted on heavy duty ball-bearings, mean low power consumption, smooth operation, and no more cylinder trouble.

We engineer and service each installation, design and manufacture all parts. We will be glad to have a representative survey and estimate your frames without obligation, in their respective territories.

Representatives

JAMES R. COLEMAN,
P. O. Box 1351, Greenville, S. C.

WALTER S. COLEMAN,
P. O. Box 722, Salisbury, N. C.

MATTHEWS EQUIPMENT CO.,
93-A Broadway, Providence, R. I.

R. L. HOLLOWAY,
Atlanta, Ga.

MEADOWS MANUFACTURING COMPANY • Atlanta, Ga.

New Machines and Methods Revealed by AATCC Papers

HIGHLIGHTS: *New "J" box can save 20% floor space—Nylon staple easier to dye—Detergents fall into three classes—Cotton or rayon holds only small amount of certain softeners.*

FOLLOWING ARE ABSTRACTS of additional technical papers that were presented at the annual meeting of the American Association of Textile Chemists & Colorists. Each abstract is complete in itself.

For brief summaries of the intersectional contest papers see TEXTILE WORLD, November, 1947, starting on page 133. Abstracts of other technical papers appeared in the December, 1947, issue, page 139, and the January, 1948, issue, page 139.

Effect of Fiber Physical Differences Upon Dyeing of Nylon Staple

DR. R. J. THOMAS
and DR. B. F. FARIS
E. I. du Pont de Nemours & Co., Inc.

It is possible to "tailor-make" nylon staple for many applications. Actually, staple is now being produced in limited commercial quantities in 1.5, 3.0, 6.0 and 10 den. per filament and in lengths from 1 to 5 in.

The coarser deniers, like 6 and 10, are used in the same manner as coarse wool—in blankets, rugs, upholstery, and some heavy-clothing fabrics. The finer deniers are used for finer grades of clothing; for example, the 3 den. is very suitable for such items as outerwear, underwear, and men's hosiery. The 1.5-den. staple is used for light-weight clothing, light-weight hosiery, underwear, and fine fabrics. Because of its very soft and cashmere-like hand, this denier is also used for fine sweaters.

Due to irregularities in the affinity of nylon for acid and direct dyestuffs, the dyeing of hosiery and continuous-filament nylon fabrics has been limited largely to the use of dispersed acetate colors, since dyestuffs of this class are unequalled in covering nylon yarn of variable affinity. Unfortunately, however, the dispersed acetate colors exhibit a fastness to washing and in many cases to light which is not commensurate with the life of the nylon fiber.

Acid and direct dyestuffs, on the other hand, may be applied to nylon from baths acidified with organic acids, e.g., acetic or formic acid, to yield colorations which withstand much more vigorous washing than the acetate dyeings. In many instances, these colors also show improved light fastness. However, under normal conditions of application to fabrics composed of continuous-filament yarns, the use of acid and direct colors is attended with the hazard that variations in affinity may result in the formation of warp barré effects and filling bars. Also, the acid colors are absorbed by nylon in only limited amounts.

In contradistinction to the dyeing of hosiery and fabrics composed of continuous-filament yarn, goods composed of nylon-staple yarns may be dyed with acid and direct colors without the danger of producing warp barré effects and filling bars. The staple is well blended, and thereby there is produced a statistical distribution of yarn segments wherein the presence of individual fibers of irregular affinity is not accentuated. In fact, complete masking of minor differences in dye absorption is obtained and the over-all pattern is one of uniformly dyed yarn.

In several mill trials involving the dyeing of materials containing nylon staple, it appeared that the nylon could be dyed in heavier strengths than had been indicated to be possible by the early dyeing studies on continuous-filament yarn.

Nylon staple has been found to exhibit greater receptivity for non-penetrating acid and direct dyestuffs than continuous-filament yarn of the same denier per filament. The receptivity for non-penetrating dyes decreases as the denier per filament increases. On the other hand, penetrating dyestuffs exhibit relatively little variation in receptivity between staple and continuous-filament nylon or among nylons of different denier per filament. In general, the receptivity of acid and direct dyes, both penetrating and non-penetrating, appears to be independent of the staple length.

The wash fastness of all of the acetate, acid, and direct dyestuffs examined, with one exception, is inferior on staple-nylon yarns as compared to continuous-filament nylon yarns; but the light fastness is unaffected by fiber physical variations. However, nylon staple dyed with acid and direct dyestuffs is faster to washing than continuous-filament nylon dyed with acetate colors. Because of this superiority in wash fastness, and in some cases in light fastness, the acid colors will be used for the dyeing of nylon staple fabrics in which minor variations in the affinity of the fiber may be expected to be masked over completely.

Textile Finishing Machinery

E. S. PIERCE
H. W. Butterworth & Sons Co.

Continuous bleaching is fundamentally simple. In the first stage, the goods are impregnated with caustic soda; in the second stage is the bleaching process proper.

There are marked differences between kier-boiling and continuous bleaching. Based on a daily production of 25 tons of 5-yd. cotton material, the following comparison can be made. Continuous bleaching uses 25% less floor space; cost of labor in some instances has been decreased as much as 40%; steam consumption has been reduced 75%; time for the first yard of goods to be completely processed has been reduced from 20 hr. to 2 hr.; and in addition to these economies, the necessary equipment has been materially reduced—two 3,000 lb. "J" boxes have replaced six 4-ton kiers. These figures vary slightly depending upon the weight and construction of the cloth.

A new "J" box has been developed which no longer needs internal lubrication and eliminates marking off on the fabric, nor is it now necessary to worry about proper piling and cloth control even at high speeds.

The new "J" design coupled with ingenious plant layout can accomplish a saving of 20% in floor space previously considered necessary for proper accessibility and control. A new high-speed slack washer has been designed to go with this "J" box and operates at speeds in excess of 200 yd. per min.

A complete single-stage bleaching system for knit goods has a special entering section to minimize tension, a slack washer, and an impregnator—a complete high-production bleaching range in 44 ft.

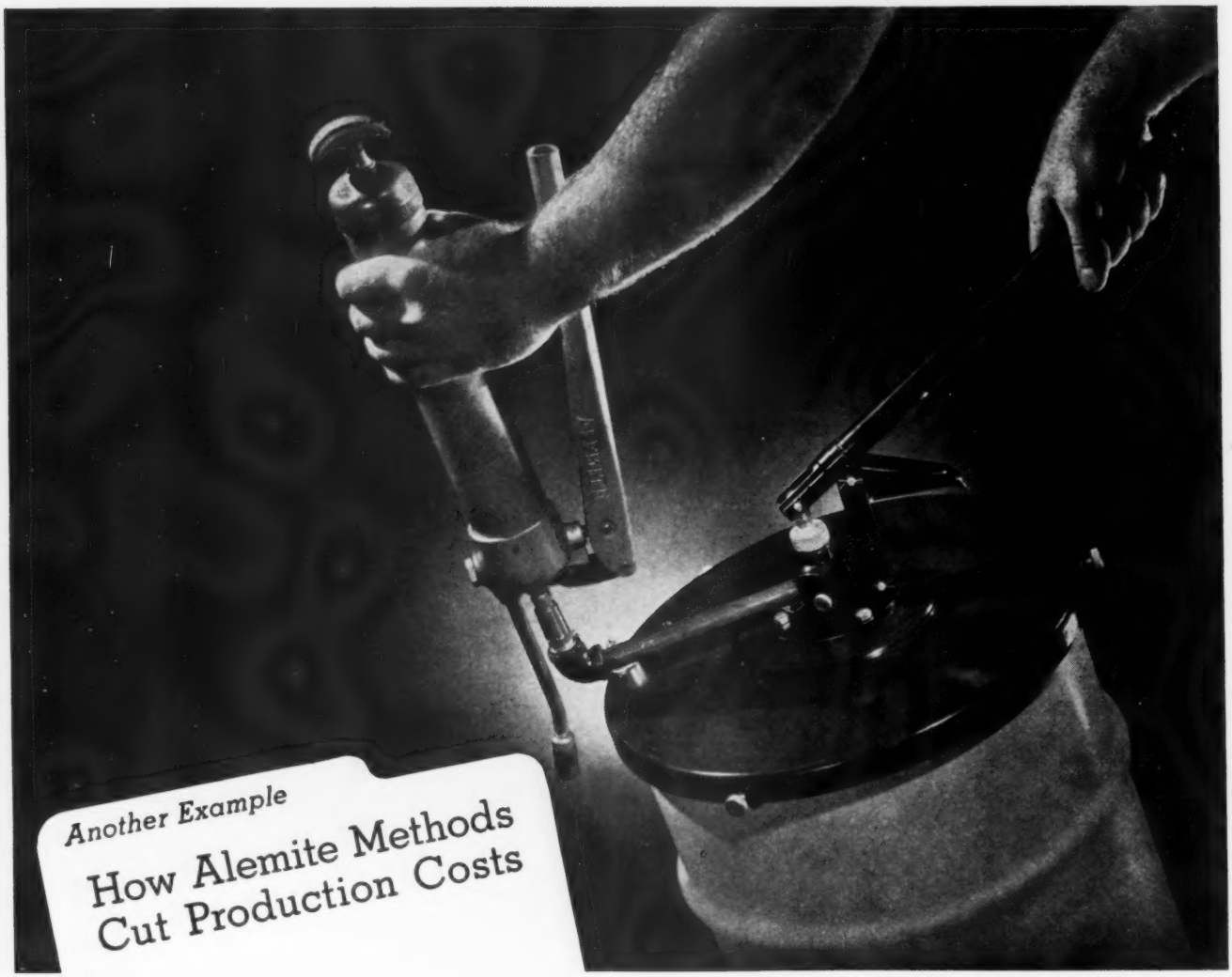
The need for high-speed tenters has resulted in developing a new chain and clamp that can withstand speeds of 150 yd. a min. or more.

Difficulties arising from the different exhaustion rates of reduced vat colors have resulted in the use of smaller-volume pad boxes, shorter immersion time, and greater squeeze pressures. Two new schemes for reduction of vat pigments are the pad-steam process developed by DuPont and the method of using the Williams units.

The pad-steam range consists of two pads, hot-flue dryer, steam-development unit, and seven wash boxes. It runs at a theoretical speed of 125 yd. per min. and should produce an average of 6,000 yd. per hr. or 48,000 yd. in an 8-hr. shift. It requires 1,100 sq. ft. of floor space. For proper operation, a crew of four men will be required plus part time of a color weigher and mixer.

To produce an equivalent yardage of vat-

(Continued on page 216)



Saves 3¾ Hours Per 100 lbs. of Grease!

Increases Productive Time of Machines by Fast, Clean, Mechanized Handling and Application of Lubricants

Your Lubrication Methods May Be More Antiquated Than You Suspect

A simple thing like using the hand and paddle method to fill a grease gun boosts maintenance costs . . . and that means lower productive capacity per dollar per machine. The Alemite Representative is a *specialist* in modern methods of handling and applying lubricants. A five minute conference with him may open your eyes to new cost-cutting ideas. So, contact your Alemite jobber, or write Alemite, 1888 Diversey Parkway, Chicago 14, Illinois.

You use hand guns in your plant. Then listen to this. Alemite's new method of loading a hand gun can save up to 3¾ manhours for every 100 lbs. of grease you use! Three and three-quarters hours you can apply to other much needed preventive maintenance work.

A minor operation yes, but it's such savings that help to augment your drive to cut production costs. In addition, this Alemite Method saves grease and eliminates mess . . . keeps dirt and moisture out of lubricants.

It's just one of many ways that Alemite Methods simplify lubrication procedures and add more productive time to machines. The Alemite Representative can show you case after case where time study analysis proves that modern Alemite Methods eliminate costly, time-consuming handling of oils and greases . . . slash time-outs for lubrication . . . completely mechanize barrel-to-bearing lubrication. He can show you how to lubricate as many as 300 bearings from *one* safe, central point while the machine keeps on producing! Get the complete facts, today!

ALEMITE

STEWART WARNER

MODERN LUBRICATION METHODS THAT CUT PRODUCTION COSTS

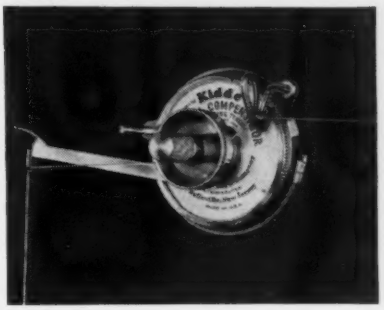
TEXTILE Equipment NEWS

Compensator Holds Any Desired Tension

A new tension compensator designed to produce automatically a constant-output tension has been developed by Walter Kidde & Co., Inc., Belleville, N. J. The self-contained compensator is a ball-bearing disk tension which utilizes the yarn tension itself to control disk pressures. There is only one variable—a spring torque arm which, it is stated, can be set permanently by a calibrated dial to any desired tension from 15 to 120 grams. Once the dial is locked in position, the resultant tension is said to remain constant regardless of type of yarn, coefficient of yarn friction, changing input tension, yarn speed, or normal changes in atmospheric conditions in a plant.

Heat-treated stainless-steel balls used in the unit are said to give friction-free compensation. Sapphire is used in the guide most subject to wear, and fatigue-resistant berrylium copper is used for the tension spring.

The new compensator is recommended by the manufacturer for any application where close tension control is required. For example, in filling winding the compensator is said to reduce the number of shiners and shell-offs. In plying of coarse yarns, the compensator will allow magazine creeling and prevent corkscrews or uneven plying, it is claimed, resulting in a stronger finished product. In difficult warping operations the compensator can be set to give uniform tension on all ends, according to the manufacturer.



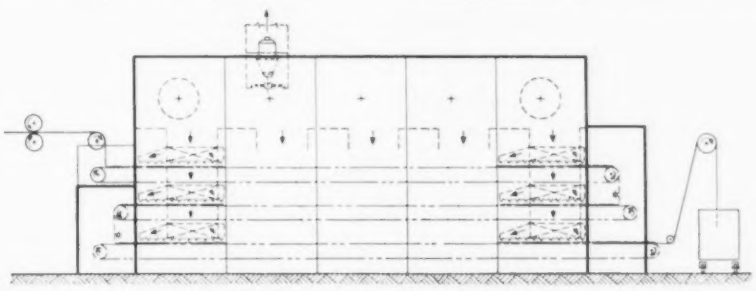
***Constant-output tension** is exerted by a spring torque arm which can be set by a calibrated dial to any desired tension from 15 to 120 grams. (Kidde).*

Shrinkage Takes Place In Slack Dryer

Shrinking of dyed goods in both warp and filling directions during drying is said to be accomplished by a new "slack" dryer developed by Proctor & Schwartz, Inc., Seventh St. and Tabor Rd., Philadelphia 20, Pa., for use in a shrinking range. Material to be dried is overfed to the dryer in a percentage determined by the finisher and is deposited on the top one of the dryer's three conveyors. The conveyors are made up of endless chains held together by cross-girts covered with cork sleeves. The girts are set on the conveyor on equal centers—allowing a small space between each girt. Because of the overfeeding, the material rests on the girts with some slack. It is carried by the top conveyor through the machine, deposited on the middle conveyor, and carried by the bottom conveyor to the delivery end and out of the machine.

Heated air at high velocity is impinged against the fabric as it passes through the conveyor. During this period, the predetermined amount of shrinkage will occur, the manufacturer states.

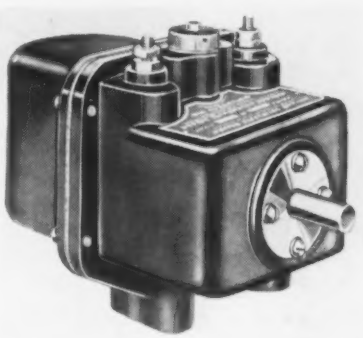
In one typical installation, an output of 60 yd. per min. is claimed. Individual units must be engineered to shrinkage and output requirements.



***Shrinkage in warp and filling directions** takes place as fabric passes through this dryer in slack position. (Proctor & Schwartz)*

Speed-Ratio Tachometer Shows Percent Stretch

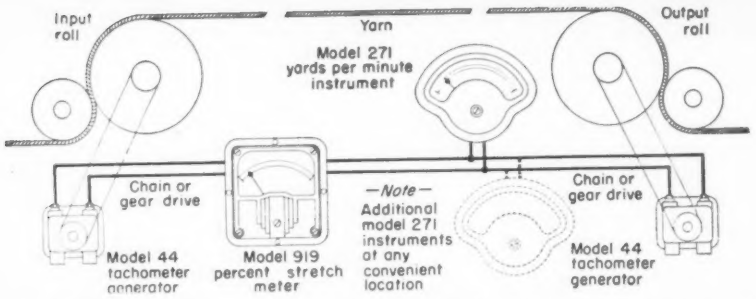
***Better processing control** is said to result from use of the speed-ratio tachometer—percent stretch is indicated on this meter.*



***Two of these tachometer generators** are used in the speed-ratio tachometer—one at each end of the slasher or other machine.*

Percent stretch of yarn during sizing, percent shrinkage of fabrics in finishing, and percent speed ratio of machines operating in series may be determined by a speed-ratio tachometer developed by Weston Electrical Instrument Co., Newark 5, N. J.

For determination of percent stretch during slashing, a tachometer generator is mounted on each end of the slasher where it is driven from the roll shafts. As material feeds through the slasher, the speed ratio between the input and output rolls is automati-



***Percent stretch** and production rate are indicated by the speed-ratio tachometer and the production-rate indicator when installed on a slasher.*

cally indicated in percent stretch on the ratio meter. A production rate indicator may also be coupled to the delivery end of the machine to indicate production in yards per minute.

The scale of the ratio meter is calibrated for any desired range of stretch. The meter is housed in a sheet-metal case approximately 6-in. square. Scale length is 5.1 in.

The tachometer generator, two of which are supplied with each complete speed-ratio tachometer, is a permanent-magnet direct-current generator that produces a voltage directly proportional to its speed of rotation. Two types are available; one is for severe service where a water-tight condition is necessary.

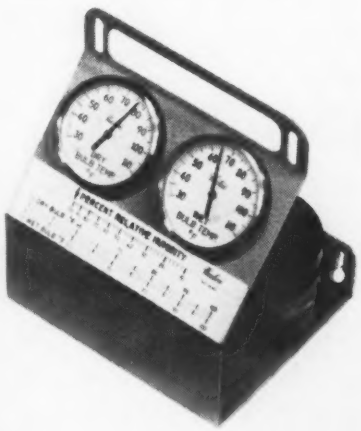
Extractor Handles Unbalanced Loads

***Unbalanced loads** can be run with great stability in this self-balancing extractor. (Fletcher)*

A self-balancing extractor in which the basket spins about the center of gravity of the basket and load is now being produced by Fletcher Works, Glenwood Ave. & Second St., Philadelphia 40, Pa. Constructed on the revolving pendulum principle, the bearing rests in a spherical seat and is supported in an upright position by steel springs which permit the necessary oscillation. This enables the extractor to be run, in tests, at full speed without vibration with only a 10-lb. weight resting against one side of the basket.

The basket is of stainless-steel construction, and is free of flanges, rivet heads, or other projections on the inside. An aluminum cover must be closed before machine can be started and cannot be opened until the basket has stopped.

Humidity Indicator Is Compact, Inexpensive



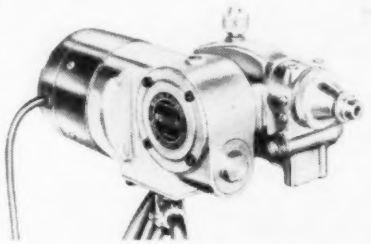
***An all-metal humidity indicator** developed by Weston Electrical Instrument Corp., Newark, N. J., consists of a wet-bulb and a dry-bulb thermometer, and a slide-rule calculator which reads directly in percent relative humidity. Accuracy to within ± 1% r. h. is claimed.*

Metallizing Gun Is Electrically Driven

The Mogulelectric, a new type of electrically powered metal spray gun, has been developed by Metallizing Co. of America, 1330 W. Congress St., Chicago 7, Ill. Designed for top speeds and heavy service, the new gun is said to be able to spray at various speeds by different combinations of gearing any of the metals used in metallizing. Use of electric drive materially reduces air requirements and eliminates turbine adjustments.

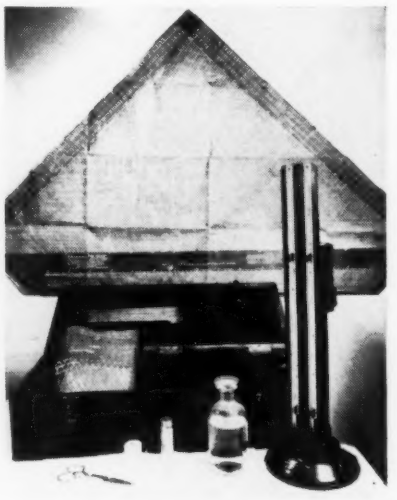
A 1/20-hp. constant-speed motor assures uniform wire speed, it is claimed. The only adjustments required, according to the manufacturer, are for gas and air.

The gear reduction at the front end is enclosed in an aluminum housing and runs in a bath of fluid grease. All shafts are mounted in oversize ball bearings, the manufacturer states. The drive component carrying the feed rolls and combustion unit is designed to be swung from a horizontal position so the gun can spray vertically or at any angle.

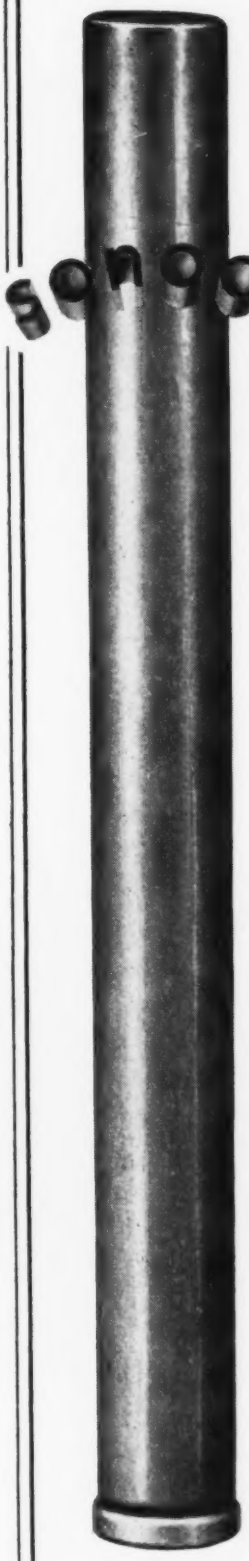


***Heavy duty at top speed** was the objective in designing this new metallizing gun. (Metallizing Co.)*

Psychrometer Is Highly Accurate



An electric humidity-measuring device, claimed to be the most accurate yet developed for commercial and scientific use, has been announced by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. Said to be capable of reading temperature deviations within one-fifth of a degree, the motor-driven instrument uses matched wet-and-dry-bulb thermometers with scale readings from 40 to 120° F. Included with the instrument is a large and specially prepared psychrometric chart for translation of wet-and-dry-temperature readings into precise relative-humidity percentages. Called an aspirating psychrometer, Honeywell's new device is applicable as a standard check for other humidity instruments, for constant-temperature rooms, for spot checks, in research laboratories, and in other applications where accurate humidity readings are of importance, the manufacturer states.



Straight Side – Top Drive –

WARP SPINNING BOBBIN

for Easier Doffing

The spindle fits the "cushion grip" with a gentle squeeze to force top-drive contact which breaks sharp and easy, without drag or pull in doffing.

This one feature alone—easier doffing—effects savings sufficient to warrant the change-over . . . SONOCO Warp Spinning Bobbins are made in four standard lengths and outside diameters to meet various traverse lengths, ring diameters and angles of yarn pull.

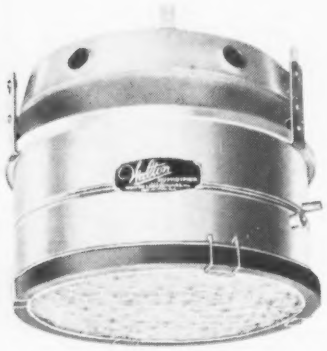
sonoco
PAPER CARRIERS

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

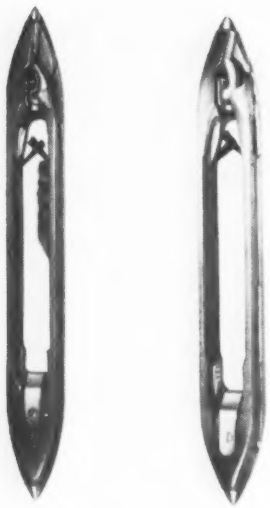
DEPENDABLE SOURCE OF SUPPLY

Humidifier Is Filter-Protected



A filter-protected humidifier has been added to the line of humidifiers of Walton Laboratories, Inc., 1186 Grove St., Irvington, N. J. The unit is said to be able to vaporize more than a gallon of water per hour. It is protected by a spun-glass filter designed to make the unit lint- and dust-proof. The filter is placed for easy removal and cleaning, and cost of replacement when necessary is said to be low.

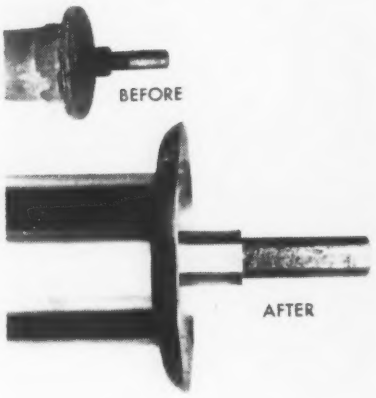
Rugged Shuttle Designed For High-Speed Looms



Durability was the objective in designing this new shuttle. At the left is the shuttle for Draper XL loom, at the right, the Draper X-2 loom shuttle.

A new shuttle designed with emphasis on the ruggedness and long life needed for high-speed-loom operation has been announced by Southern Shuttles Div., Steel Heddle Mfg. Co., Greenville, S. C. The shuttle body is made of a specially tempered dogwood, according to the manufacturer, and a new method of tip-insertion is said to prevent loose tips. A small recess in the side walls near the eye prevents bobbin slap, it is claimed. A new one-piece eye, model 108, was engineered for this shuttle and is said to eliminate ballooning or looping troubles. The outlet-side thread guide is made of special steel.

Roll Rebuilding With Stainless Steel Offered



A rubber-covered roll which became worn out has been reconditioned by use of stainless steel by Rodney Hunt Machine Co., Orange, Mass. In this case, the old rubber jacket was removed and a stainless-steel jacket applied. A stainless-steel splash flange and hub was also supplied. Rolls with worn-out or pitted surfaces of brass, bronze, rubber, steel, stainless steel, or iron are being rebuilt in this manner by the company.

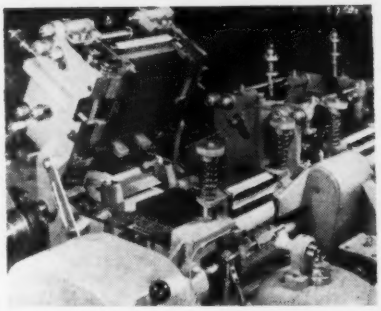
Pin Drafter Being Produced in Volume

Now in volume production is the pin drafter made by Warner & Swasey Co., 5701 Carnegie Ave., Cleveland 3, Ohio [TW, July '46, p. 157]. The pin drafter is designed to incorporate functions of the open-type drawing machine into an advanced design of screw gill. It is said to be capable of handling 100% wool, blends of wool with cotton or synthetic staple, and all types of 100% synthetic staple possessing induced or inherent crimp.

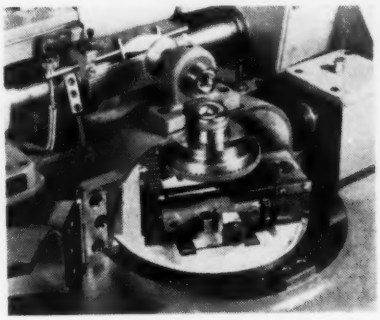
The pin drafter is double headed, a design feature claimed to combine productive capacity with flexibility of operation. Faller heads are of the full intersecting type.

Either can-creel or ball-creel feed can be supplied. In the former case, the feed stand consists of six cans, 15-in. diameter by 36-in. high, for each head. The ball-feed stand normally accommodates four balls of top for each head, though a six-ball creel is available for lightweight sliver.

From the creel, the stock enters sliver guides and passes through feed-stop rollers. These are designed to



Improved fiber control is claimed as an advantage of the 7½-in. long faller bed. (Warner & Swasey)



Sliver is tensioned slightly by the coiler head which is located close to the discharge of the draft rolls, thus assisting in locking the selvage. (Warner & Swasey)

serve not only to draw the stock away from the creel as it feeds through the guides, but also act as a stop motion in case of sliver run-out or break. A splicing or conveyor belt then carries the stock to a condenser designed to exert no appreciable drag on the latter. The length of belt provides a useful area for splicing-in ends. A condenser is used in place of back draft rollers, and it is said to eliminate the problem of ratch setting. Stock is tensioned slightly prior to entering the pins, and the condenser serves to bulk up the stock to uniform density in the pins. The manufacturer states that flares and edge drafting are thus avoided. The small condenser structure is claimed to allow room for a longer faller bed as well, making for improved control.

Each of the faller sections is 5-in. wide by 7¾ in. long; and operates at 1,030 drops per min., equivalent to a sliver-entering speed of 9 yd. per min. Capacity per head of 1,000 grains per yard of entering slivers is claimed. Feed saddles are tapered from entry to discharge to compensate for draft. The ⅛-in.-pitch drive screws and cams are designed for smooth, long-life service and are also said to reduce pin marking and crimp by eliminating faller creep.

The draft roll section involves a three-roll unit, consisting of an inner ⅞-in. diameter fluted nip roll and a forward 2⅝-in. fluted roll, both in con-

seconds count!

Seconds, as any knitter knows, really can run into money. Smooth-running, dependable Dixie Durene is a yarn of uniform high quality, reducing seconds to a minimum. Dixie Durene means real economy in operation. Use it for a "new high" in quality.

DIXIE MERCERIZING COMPANY

CHATTANOOGA 1, TENNESSEE

Made of Durene® multi-ply mercerized combed cotton yarn
4 WAYS BETTER than ordinary cotton yarns
EXTRA COMFORT —more absorbent
EXTRA STRENGTH —longer wear
EXTRA QUALITY —lasting lustre
EXTRA SERVICE —easy to wash

Dixie Durene
A PRODUCT OF CONTROLLED MANUFACTURE

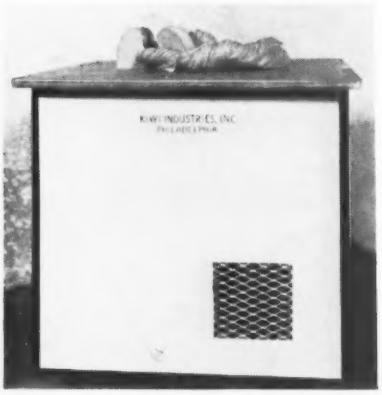
tact with a 2½-in. synthetic-covered pressure roll. Nip length from faller section is adjustable from ⅛ in. minimum to 1½ in. maximum. The draft is entirely dependent on the speed of the draft-roll section and is thus controlled by an easily accessible change gear. Change gears are provided with increments of one tooth in a draft range of 3 to 7.5, or 4 to 10. The draft-change gear is the only major operating adjustment required by the pin drafter, the manufacturer states, aside from setting the condenser for the bulk of stock being handled.

Calender rolls transfer finished sliver to coiler heads where a slight tension is maintained up to the point of discharge to aid in locking-in the folded sliver. The coiler sweep is 3¼ in., and both coiler-speed and receiving-can-turntable rotation are automatically maintained in direct relationship to draft roll speed.

The drive for the pin drafter is from a 1½-hp. motor to the main gear box. Four pushbutton stations at each corner of the bed provide functions of "Start," "Stop," and "Jog."

Automatic safety stops are designed to go into action under four conditions. The machine stops if broken or run-out ends are received from the creel or if roll laps or breaks occur on the discharge side of the draft rolls. A faller-lap stop motion prevents faller laps, and an electrical yardage counter is also capable of stopping the machine at any set yardage.

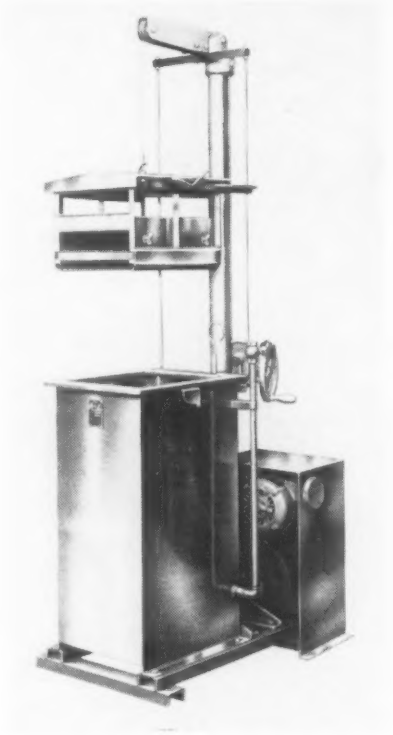
Machine Twists Skeins at High Rate



Twisting of skeins as fast as they can be inspected is claimed for this new machine. (Kiwi)

Twisting of skeins at a rate ten times faster than hand twisting is claimed for a skein-twisting machine developed by Kiwi Industries, Inc., 2626 No. Hutchinson St., Philadelphia, Pa. The electrically driven skein twister can be operated by skein inspectors. Skeins are placed in a holder on top of the table-like equipment, a pedal is pressed, the skein is twisted, then removed. The machine is adaptable to any type of yarn, the manufacturer states. Top of the machine is 30x36 in., and is made of splinterproof Masonite. Height is 31 in. Availability: 60- to 90-day delivery. Price: $1,150.

Machine Dyes Sample Skeins



Small sample batches of all types of yarn in skein form may be dyed accurately by the Pegg sample "hank-dyeing" machine, according to the maker, Mellor, Bromley & Co., Ltd., St. Saviours Rd., Leicester, England. All parts of the machine which come into contact with the dye liquor are made of stainless steel. The skein carrier is designed to prevent snarling or felting.

Lubricating Insert Reduces Wear

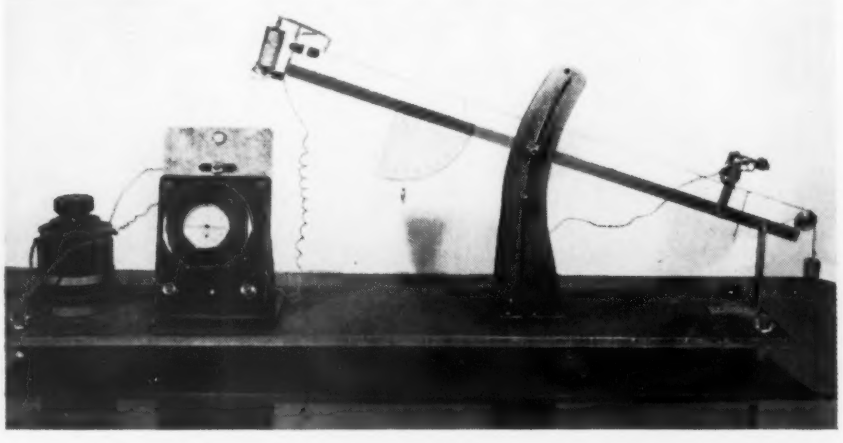
The Lubronze bearing, an improvement in Dixon Lubricating Saddles for short-draft spinning frames, has been announced by Dixon Lubricating Saddle Co., Bristol, R. I. The device consists of a bronze insertion, impregnated with graphite, oil, and other materials, fixed in the saddle at the point where the latter bears on the front roll.

The Lubronze bearing is said to provide a smooth bearing surface and give extra protection of reserve lubrication at this point. The need for lubrication will not be eliminated, the manufacturer states, but the bearing will prevent wear when delays in lubrication occur.

Lubricity Tester Aids Tensioning

Yarn lubricity, more technically described as coefficient of kinetic friction, can be measured by a new apparatus adapted by U. S. Testing Co., Hoboken, N. J., from a device patented by National Oil Products Corp. [TW, Mar. '45, p. 100]. Essentially, the apparatus consists of an inclined-plane holder for a yarn specimen to which is attached a means of timing the descent of a rider down the incline.

A polished-steel rider has been used in most experiments to duplicate needles, sinkers, etc., encountered on knitting machines. The yarn holder is adjustable from the horizontal to a 40° angle. An electrical mechanism at the upper end releases the rider and starts a timer which measures to 1/120th of a second. The timing is cut when the rider actuates an automatic balance-wheel stop-motion at



Yarn lubricity is determined from the time required for a rider to slide down a sample of yarn of predetermined length. (U. S. Testing)

PRODUCE QUALITY YARN

Armstrong's Cork Cots draft uniformly

You get better running work when you install Armstrong's Cork Cots because their seamless surface grips the yarn evenly. Cork, with its many six-sided cells, gives these cots high frictional properties. Cork also won't slick. That's why these cots draft uniformly, produce top-quality yarn consistently.

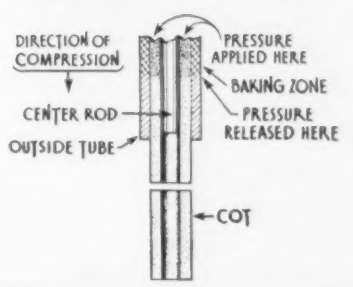
The high coefficient of friction eliminates eyebrowing, too. Armstrong's Cork Cots reduce clearer waste as much as 50%—and place it back on the clearer boards where it belongs. This means cleaner work and less clearer picking.

Armstrong's Cork Cots are also exceptionally resilient. They recover quickly from most laps or hard ends. They give you fewer ends down per thousand spindle hours, so your operators do less piecing up. They won't flow under roll weighting.

Low in first cost, Armstrong's Cork Cots have a long initial service life. When they do show wear, they can be rebuffed for 3 or 4 extra service lives.

Ask your Armstrong representative for samples, prices, and complete information. Or write today to Armstrong Cork Company, Textile Products Dept., 8302 Arch St., Lancaster, Pa.

EXTRUSION PROCESS PRODUCES SEAMLESS CORK COTS



Armstrong's Cork Cots have no structural weakness to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. Each compresses evenly, spins stronger yarn, lasts longer.

Better running work . . . more poundage

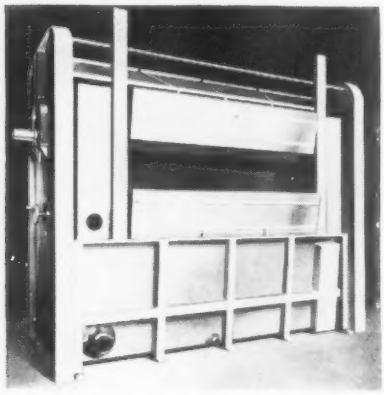
ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

the end of the 45-cm. test run. The friction coefficient is based on a formula incorporating the values received from the test and must be corrected by use of tables to allow for, among other things, the sag created in the yarn tested.

The U. S. Testing Co. has been licensed by National Oil Products Co. to utilize the apparatus and procedure in commercial testing. To date no arrangements have been made to manufacture the instrument for sale.

Slack Washer Has Full-Width Doors



***Unobstructed visibility** to the interior of this tight-strand washer while in operation is enabled by a splashproof full-width door. (Wiesner-Rapp)*

A new line of stainless-steel tight-strand washers said to handle all weights of fabrics at maximum speed has been announced by Wiesner-Rapp Co., Inc., Buffalo, N. Y. The machines are designed for easy threading-up and rapid roll removal. The squeeze rolls are said to have adjustable pneumatic pressure which may be preset to meet varying pressure requirements. A gage located outside the washer tells at a glance the pressure on the rolls. The rolls are said to be standard and interchangeable for quick and easy replacement. The use of double-roller bearings for the squeeze rolls and water-lubricated bearings for the easily removed pit rolls is said to result in use of a minimum of horsepower to drive the washers.

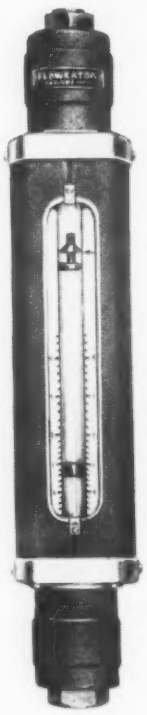
The washers are furnished with stainless-steel enclosures that are equipped with full-width uniquely designed doors. These doors, designed in two sections, are so arranged that an opening between the two sections of the door permits unobstructed visibility to the interior of the washer while in operation and yet does not allow water to splash to the outside of the machine, the manufacturer states. This unobstructed visibility is said to permit the operator to see at a glance the need for more or less tension in the fabric being washed. The doors have hidden counterweights for ease of raising or lowering.

Adjustable pin rails distribute wear over the rubber-covered squeeze rolls. Tanks are constructed from solid stainless steel and stiffening members throughout are made from stainless steel. The design of the machines permits the installation of baffles and compartments, if desired. Water consumption is kept to a minimum because of counterflow, it is claimed.

Costly wrap-ups are said to be eliminated in these tight strand washers by a special cloth-tensioning arrangement which is adjustable for a minimum and maximum tension of various types of fabrics.

To meet varying mill-to-mill requirements, cloth inlets and outlets, water inlets, overflows, and drains may be located wherever specified. Design of the washers may also be modified to meet specific mill requirements.

Viscosimeter Tests Size Solutions

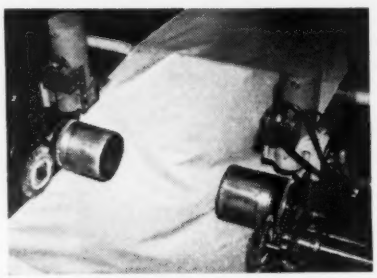


***Viscosity of size solutions** is indicated by the distance between the two floats in this flow-rate meter. (Fischer & Porter)*

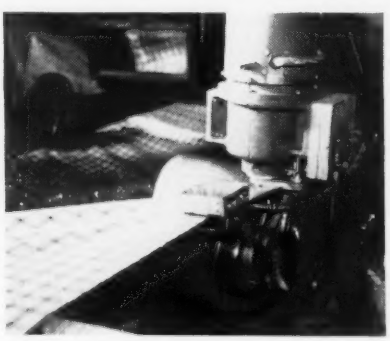
Continuous testing and control of sizing solutions for nylon and other fibers are claimed as an application of a new type of viscosimeter, the Viscorator, recently announced by Fischer & Porter Co., Hatboro, Pa. The instrument is mounted in the flow line, and may be coupled to instruments which will record viscosity, or operate mechanisms to alter temperature or blending percentage. Instruments are available for viscosity ranges of about 80 to 130 SSU, and control of size viscosity is said to be possible to within closer than 1 SSU.

The instrument is an adaptation of the company's Flowrator variable-area flow meter. Two floats are used; one is immune to viscosity changes and rises and falls only with changes in flow rate, the other is both viscosity- and flow-rate sensitive. Viscosity measurement is determined by the distance between the two floats at a selected flow rate.

Cloth Guided by Electric Eye Into Pin Tenter



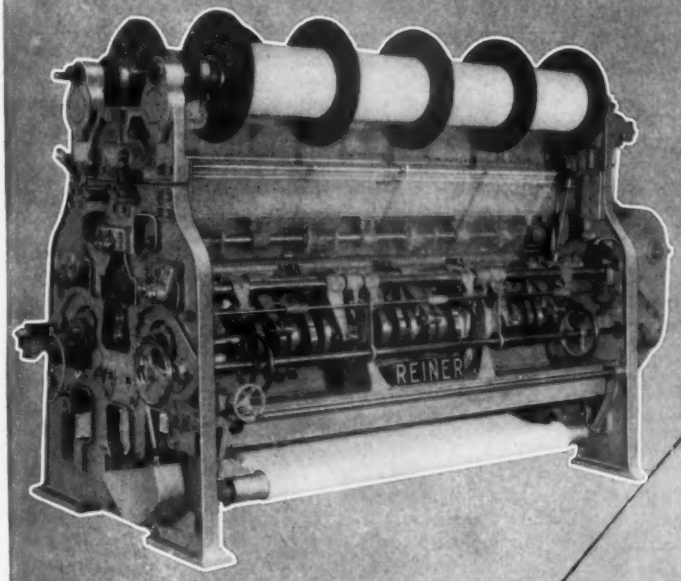
***Material is straightened** as it passes beneath an electric eye. Any uneveness in the selvage passing beneath the eye will vary the amount of light reaching the eye, causing the control motor to react.*



***Material passes over one-quarter** of the guide-wheel circumference and is therefore fed off it at the same point relative to the control-motor pivot. This is said to always bring the selvage directly under the first pin of the series.*

An electronic control for guiding material into a pin tenter, said to eliminate all normal costs of hand labor and to reduce driving load, has been developed by Tootal, Broadhurst, Lee & Co., Manchester 1, England. Power required is claimed to be only 250 watts; and the manufacturer states that speed of operation is increased, the selvage is automatically straightened, and ripples necessary to processing of the cloth are kept uniform and even.

the new REINER



SIMPLEX MACHINE

The new Reiner Simplex Machine is ready for your inspection. You are cordially invited to write to us for an appointment.

The Reiner Simplex Machine is of the most modern construction and its features make it the most economical producer of the finest Simplex cloth yet made. It takes spools up to 21 inches in diameter, or any spools of the conventional size. Knitting width 84 inches.

REINER ALSO OFFERS

a full line of preparatory equipment such as creels and warpers for all requirements, warping spools, hydraulic beam lift wagons, stop motion equipment, and other auxiliary items, thus giving the knitter a continuous line from start to finish, all available from one source.

Ask for our richly illustrated catalogs.

For those interested in the manufacture of gloves, swim suits, sport shirts, sport jackets, sport shoes, bed jackets, hand bags, slip covers, night gowns, and dresses, to see this machine is a "must."

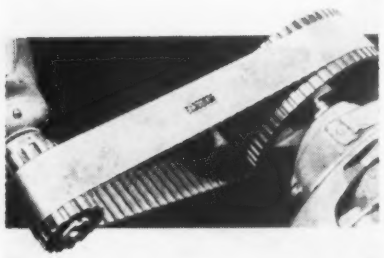
FOUNDED IN 1

ROBERT REINER INC.

550-556 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

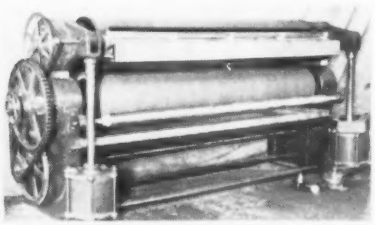
10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61, 67, 167 from the Times Square Public Service Terminal at 260 West 42nd Street, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505.

Rubber-Toothed Belt Is Slip-Proof



***The Gilmer timing belt,** a belt with rubber teeth that will not slip, was recently announced by the L. H. Gilmer Div. of U. S. Rubber Co., Rockefeller Center, New York, N. Y. The new belt is said to be enormously strong, highly flexible, and virtually noiseless in operation. It is designed for use on machinery equipped with special pulleys grooved to fit the teeth. Steel reinforcing cables embedded in oil-resisting synthetic rubber are said to reduce stretch almost to zero, eliminating the necessity of take-up devices installed on many belt drives to remove slack. In operation, the belt makes positive engagement with the pulleys at any speed up to 10,000 ft./min., it is claimed.*

Squeeze Roll Unit Exerts 30,000 lb.

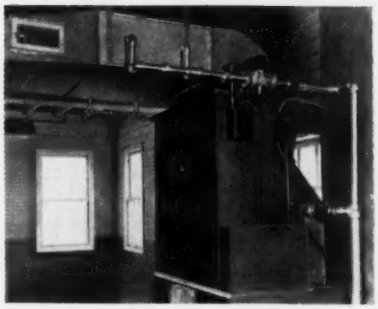


***Pressure up to 30,000 lb.** may be applied either pneumatically or hydraulically by a new roller-bearing heavy extracting squeeze-roll unit developed by Birch Bros., Inc., 32 Kent St., Somerville, Mass. The machine is built in all widths and is equipped with rubber-covered rolls and extra-large shafts. Flock brush, stainless-steel flock tray, and pan under the squeeze rolls are regularly furnished with the machine. Either constant- or variable-speed drive is available.*

Single Unit Heats, Humidifies

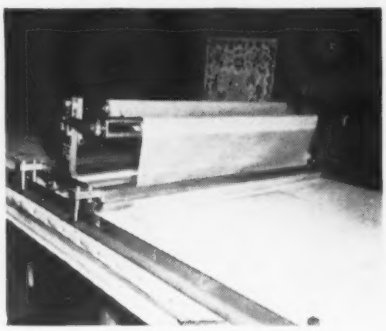
A new single-unit system that can supply heat and humidity either independently or combined has been developed by Air-Perme-Ator Mfg. Co., Paterson, N. J. The machine can be placed anywhere, even on a platform, thus conserving floor space, the manufacturer states. Heating coils are installed inside the regular unit, and steam is thermostatically controlled.

No heat is lost, it is claimed, as in ordinary wall-pipe heating systems. Fuel savings of up to 50% over old methods are obtained, according to the manufacturer. Because no free moisture is released into the air, there is no condensation of moisture on machinery or stock, it is stated.



***Heat and humidity,** either independently or combined, are supplied by this unit system. (Air-Perme-Ator)*

Positioning Machine Is All-Aluminum



***A new positioning machine** especially suited for laying of silk tie and dress goods preparatory to printing has been announced by Spinelli Machine Co., 28 22nd Ave., Paterson 3, N. J. Perfectly straight and even laying of goods without wrinkles is claimed, as well as elimination of hand pinning and the danger of misregisters caused by the screen loosening up the pins. Said to be of all-aluminum construction, the machine is also reported to have all moving parts centered on precision ball bearings, an adjustable back-and-forth tension bar, two positioning rollers, and a self-adjusting roller guide-rail device.*

Fork-Truck Loads Moved Laterally

***The Side Shifter,** a new fork-lift-truck accessory permits the operator to pick up or deposit a unit load in an exact location without repositioning the truck itself, it is claimed. Developed by Towmotor Corp., 1226 E. 152nd St., Cleveland 10, Ohio, the new accessory provides lateral movement of a load, on forks or pallet, to either side, eliminating truck maneuvering. Hydraulically operated by a lever mounted convenient to the operator, the side shifter will move the carriage face and forks a distance of 3½ in. in either right or left direction as the desired location demands.*

DYES & CHEMICALS

Four New Agents Announced by General

Four new agents for textile-finishing applications have been announced by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y.

APPRETAN NSF CONC.—a non-slip finish developed for use on loosely woven rayon fabrics which is said to bond warp and filling yarns at their point of contact. No material effect on fabric hand is claimed. A 5% solution applied at 120° F. by a pad, quetsch, or mangle, dried on a tenter frame and calender at 180 to 200° F. is said to produce a satisfactory, non-slip finish on most constructions.

SOROMINE KS—a substantive-type softening agent with dye-fixing properties said to be of particular use where fastness to bleeding and/or fastness to perspiration of direct and acid dyes is required, along with a soft, dull hand. It is applicable particularly to yarns and fabrics of spun and filament rayon, acetate rayon, and cotton, as well to those of casein fibers, nylon, and wool.

SOROMINE BSS PASTE—a cationic softening agent belonging to the group of quaternary-ammonium softening compounds. It is said to be highly substantive to cellulosic fibers, to exhaust well, and thus to be economical to use. Improved fastness of direct dyeings to water and perspira-

Engineered Protection!

NON-ELECTRIC *Permanent* MAGNETS

BUILT FOR THE TEXTILE INDUSTRY.

DESIGNED and engineered for suspension above the spiked apron of a feeder, this Eriez Permanent Non-Electric Magnet removes *the* tramp iron from textile materials in process . . Here is maximum protection because materials are fully opened and traveling at slow speeds . . with the magnet installed at last point of operation where fibers enter cards or garnets . . Eliminate fires and damage to processing machinery by specifying powerful, permanent Eriez Non-Electric Magnetic Equipment . . Cut operating expense too! First cost is last cost . . no current or electrical accessories needed as Eriez units are *permanently magnetized* . . For full details on Eriez engineered magnets, clip and mail the coupon below.

Here are two Proctor and Schwartz feeders protected by Eriez Permanent Magnets. The elimination of the fire hazard plus the positive protection of the equipment result in very sizeable savings.

Please send bulletin No. 104A and the following:
Data on Eriez Magnets for: TW 2
☐ Wool ☐ Cotton ☐ Worsted ☐ Other processing lines
Eriez data on: ☐ Gravity Conveyor ☐ Mechanical Conveyor
☐ Pneumatic Conveyor ☐ Equipment on Processing Machines
Name.....
Address.....City.....State.....

For Complete Textile Magnetic Protection . . . See Eriez First

ERIEZ MANUFACTURING COMPANY

501 E. 12th St., Erie, Pa.

tion with slight modification to shade and decrease in light fastness is claimed. Its softening effect is said to be greatest on cellulosic fibers.

NEKAL A—a synthetic surface-active wetting, dispersing, stabilizing, and emulsifying agent, said to be stable to acid, alkali, and heat. It is recommended by the manufacturer for lake preparations.

Wool Oil Reported With Many Desirable Qualities

Proxol, a new self-emulsifiable wool oil with a pour point of less than 20° F. has been developed by Procter & Gamble Co., P. O. Box 599, Cincinnati 1, Ohio. Particle size in emulsion is said to be 1 to 3 microns. Good spreading characteristics and anti-static properties are also claimed. Less stripping and non-corrison of card wire is said to result from use of the oil, as well as minimum fiber breakage. Additional properties claimed are exceptional resistance to oxidation during cloth storage, ease of scourability, and no harm from freezing. Proxol is shipped in 55-gal. non-returnable drums containing a net weight of 420 lb. of oil.

Cheaper Substitute for Sulphonated Oils Developed

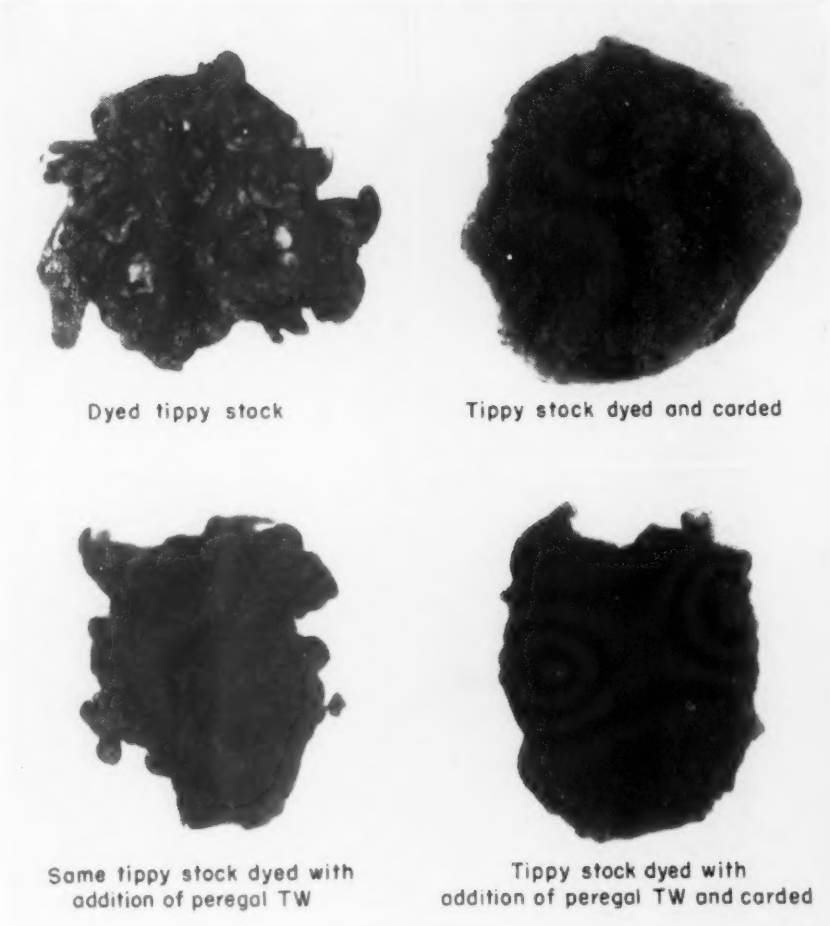
Sulphonated Estols, a new series of sulphonated fatty esters from vegetable sources, are claimed to have properties corresponding to various sulphonated natural oils and sulphonated tallow and to be available at lower cost, according to the manufacturer, E. F. Drew & Co., Inc., Boonton, N. J. The product, available in several grades, is said to be free from mineral oil, resinous substances, proteinaceous and pectic impurities. Excellent color and odor properties and exceptional freedom from development of color and odor on ageing are also claimed.

Mothproofing Compound Carries U. S. Testing Seal

Boconize, a durable, low-cost mothproofing compound said to impart no undesirable effects when applied to wool fabrics has been developed by Bocon Chemical Corp., 18 W. 37th St., New York 18, N. Y. In tests made by U. S. Testing Co., wool-fabric samples dry-cleaned 25 times and washed five times, using AATCC methods, were unharmed when subjected to a 28-day attack by live carpet-beetle larvae. Chemically an acid salt of an aromatic amine, Boconize is said to be the first mothproofing compound to have been awarded U. S. Testing Co.'s certified-merchandise seal.

The compound may be applied at almost any stage of manufacturing by spraying, exhaustion, or padding. Said to be colorless, noninflammable, unaffected by light, perspiration, or salt water, Boconize leaves no odor on the fabric. No toxic compounds are contained, the manufacturer states, and no undesirable effects on fiber properties or fabric hand are claimed. Available in both paste and liquid form, Boconize is said to be water-soluble, but after application to the fabric water will not dissolve it as, according to the manufacturer, it combines chemically with the fibers.

Agent Corrects Tippy Wool Dyeing


Dyed tippy stock
Tippy stock dyed and carded
Same tippy stock dyed with addition of peregal TW
Tippy stock dyed with addition of peregal TW and carded

***An increase in color value** in dyeing of piece goods containing mixtures of tippy-dyeing wool is claimed for peregal TW, a new agent developed by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. Quantities of the agent required vary with equipment and methods used from ½ to 2%.*

Du Pont Announces Raw-Nylon-Warp Size

Polymethacrylic acid (PMA) size for sizing raw-nylon continuous-filament warps has been developed by E. I. du Pont de Nemours & Co., Wilmington 98, Del. Experiments conducted in several mills have proved successful for many constructions and weaves, according to the company. Excellent results were said to be obtained on satins, twills, and lenos; and marked improvements were noted on taffetas.

PMA is water soluble and is easy to apply and remove, the manufacturer states. Loom shedding is practically eliminated, it is claimed. PMA-sized warps generally exhibit satisfactory break at the split rods, it was stated, with the split occurring well before the warp reaches the first bar if there has been normal pick-up of size and proper drying. For scouring, conventional hot water, soap, and alkaline scours are said to be satisfactory.

Availability is adequate for current needs, the manufacturer states. PMA is packaged as a dry powder and is available in containers of 50 and 100 lb. net.

"Useful Accessories for Textile Mills" Appears on page 242

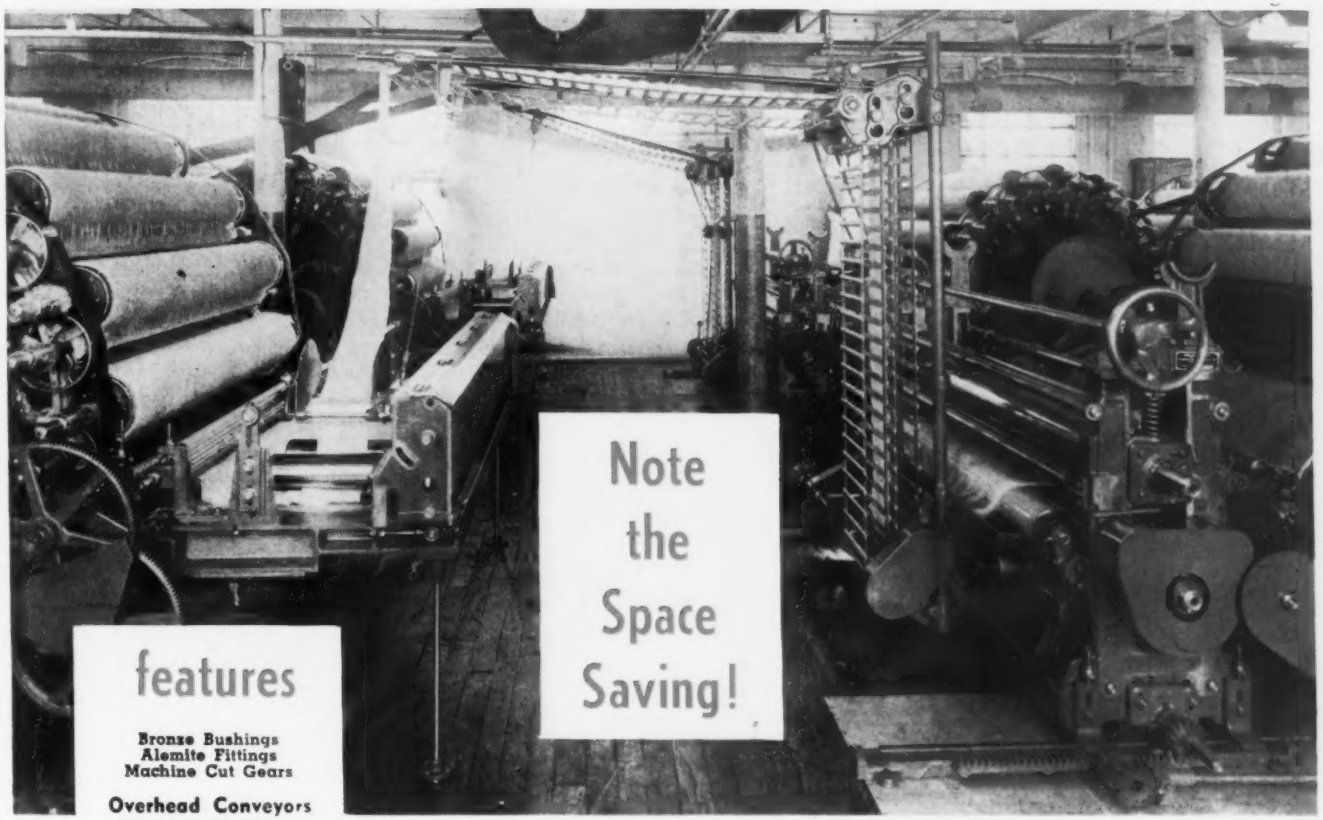
Duesberg-Bosson of America, Inc.

—manufacturers of the new

INTERMEDIATE CENTER

BROAD BAND FEED

TO FIT THEIR PATENTED PERALTA MACHINES AND EXISTING CARDS



features

Bronze Bushings
Alemite Fittings
Machine Cut Gears

Overhead Conveyors
Fastened Rigidly to Peralta
Two Vertical Supports Less Vibration
Oilless Wood Bushings
Heavy Roller Chain Drive
Jaw Clutch Aids Starting
Width of Woolen Band Adjustable—2" to 11"

Feed Table
Heavier Design
V-Belt Drive
Variable Speed Sheaves
Deeply Fluted Aluminum Rolls
Prevent Web from Sticking

● The Intermediate Center Broad Band Feed was designed by our engineers in Providence to fit the Peralta Machine. Also sold separately. Includes many improvements. Saves valuable floor space between Peralta Machine and the Feed Table.

Prices and Delivery on Request

Duesberg-Bosson of America, Inc.

351 Harris Avenue, Providence, R. I.

Round Table

FOR EXCHANGE OF IDEAS—*The Round Table is open to letters from any and all readers discussing subjects relating to mill management, production, engineering, technology, etc. Names of contributors will be held confidential if so requested, but contributions must be signed with real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table,* TEXTILE WORLD, *330 West 42nd St., New York 18, N. Y.*

What Is the Best Method Of Putting Fringe on Fabric?

We have been trying for quite some time to solve the problem of fringing such fabrics as automobile robes and certain types of throw rugs. So far, we have been able to put decorative fringe around the edge of a fabric only by hand. We take a certain number of warp ends, twist them together, insert one end through the fabric, and tie the bundle of yarns around the edge of the fabric. Of course, this procedure is slow and tedious; but we know of no other method for putting the fringe on.

We are wondering if any other mill has a better method or if any of your readers can suggest a better method. (*R*-392)

Do you have a better method for putting fringe on a fabric? TEXTILE WORLD invites discussion of this problem in the columns of Round Table.—Editor

Fire Program Includes Prevention and Control

This reply is prompted by contribution (*R*-371), *Fighting Flash Fires Is a Vital Mill Problem* [T.W., Nov., 1947, p. 170].

Cotton-textile mills have the poorest record of all major industries when it comes to the frequency of fires. This condition becomes more serious with advancing costs of labor, equipment, and materials.

We at Factory Mutual are devoting considerable effort to prevent as well as to improve ways for controlling such fires. This has not been a simple task because of the numerous contributing causes of fires, as well as the many variables encountered with the burning habits of lint.

Laboratory investigations of all prominent types of fire extinguishers —such as soda and carbon dioxide, vaporizing liquid, foam and dry chemical—have been made. Corroborative field observations have been carried on to determine how well the results coincided when the extinguishers were in the hands of less-experienced personnel. Similar tests were made with small hose and a variety of spray nozzles at different velocities.

Surface-lint fires are usually not difficult to extinguish; but due to the speed of flame travel, they require extinguishers that have rapid, broad-area coverage rather than high, concentrated extinguishing power. The selection of the proper-type extinguishers and their distribution should, therefore, be governed by conditions in each department, with due consideration to the number of employees available for prompt first-aid fire-fighting.

Under average housekeeping conditions, with employees well trained in the use of extinguishers, most of the machine-process fires should be quickly controlled by plant employees using first-aid equipment only. When a cotton-process fire that occurs during working hours is not controlled by first-aid equipment, there is quite certain to be one or more of the following deficiencies:

1. Inadequate first-aid equipment
2. Unsatisfactory housekeeping conditions
3. Failure of the human element.

Water spray is the most effective first-aid extinguishing medium for cotton lint fires. Solid streams divide and scatter burning lint. For most conditions requiring water-spray protection, the common garden nozzle will give satisfactory service. These nozzles may be used with ¾-in. and 1-in.-diameter rubber-lined hose. Low-velocity water-spray applicators are especially suited for locations where the path of fire may extend to a high

(*Continued on page 172*)

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*

"No wonder this machine is dying—look at the temperature it's running!"

6 BIG FEATURES *make* FULLER TEXTILE BROOM TOPS WITH SWEEPERS

1 Light weight makes it easy to handle.

2 Flexible yet resilient enough to remove the finest lint with ease.

3 Wide flare sweeps large surfaces quickly.

4 Tough Aztec fibers last longer.

5 Sweeping edge does not "heel over".

6 Shoulders protected from damage when sweeping under or around machinery.

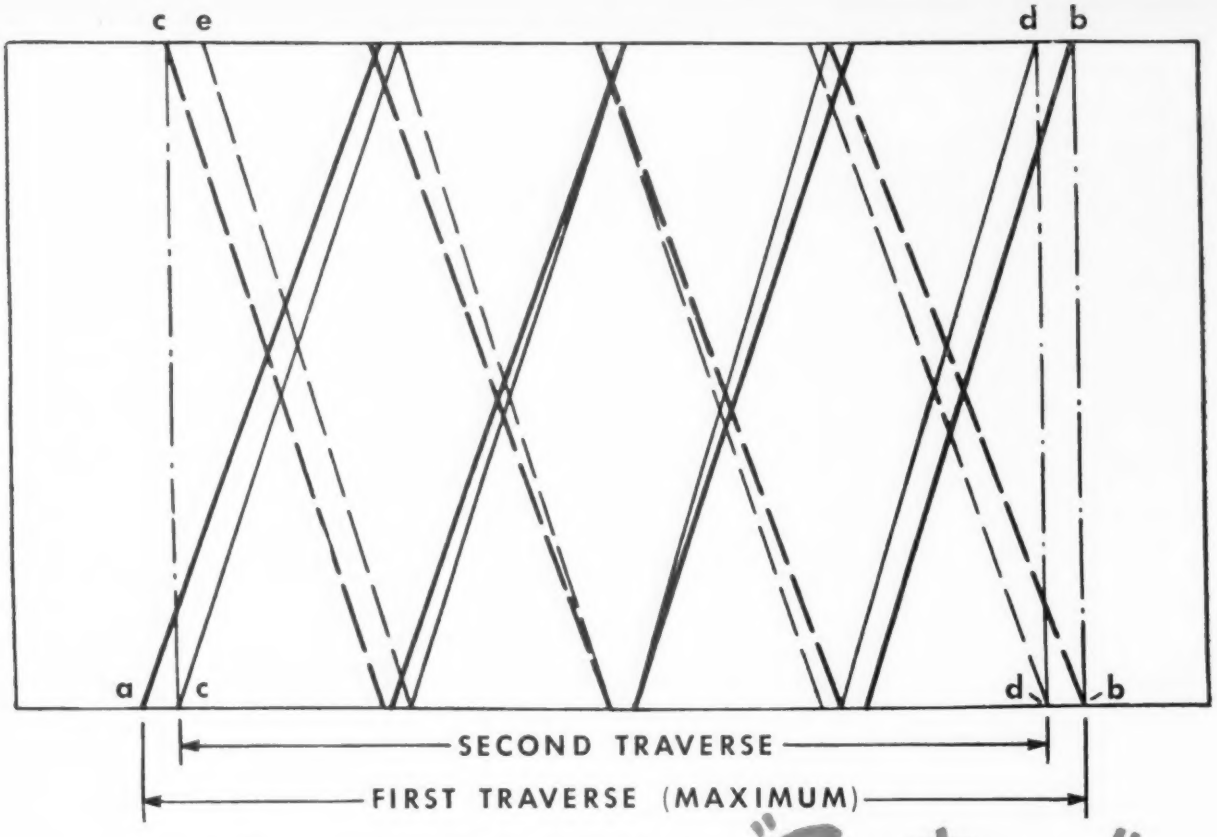
Test these important advantages in your own mill.

TELEPHONE your Local Fuller Branch Office or write

The FULLER BRUSH Co.

INDUSTRIAL DIVISION

3594 Main St. • Hartford 2, Conn.



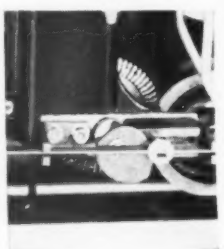
An air conditioning "System" that speeds up lagging

This is how nylon yarn is laid onto the sizing tube by the *patented* traversing mechanism on the No. 250 Universal Sizing Machine.

Each time the yarn is traversed, it is laid on the tube at a slightly different angle. In contrast to a tube on which coils are laid adjacent to each other, this construction allows more air space *inside* the package.

Result: dry air circulates more easily through the yarn mass, permitting faster evaporation of moisture. In the sizing area, Universal tubes dry 1 to 5 hours faster because the tube itself is "air conditioned"—the inside layers dry nearly as fast as the outside layers.

The patented heart-shaped cam connected to



the thread guide causes the yarn to be distributed evenly in alternately long and short layers, hence at varying angles to the tube. In addition to providing a yarn structure more susceptible to drying, it creates a package shape (tapered ends) which eliminates underwinds. Tubes wound on the No. 250 are used as supply on the No. 50 Coning Machine without intermediate re-draw.

UNIVERSAL WINDING COMPANY

Providence, Boston, Philadelphia, Utica, Charlotte, Los Angeles, Atlanta, Chicago, Montreal, Hamilton

UNIVERSAL SYSTEM OF NYLON SIZING AND CONING

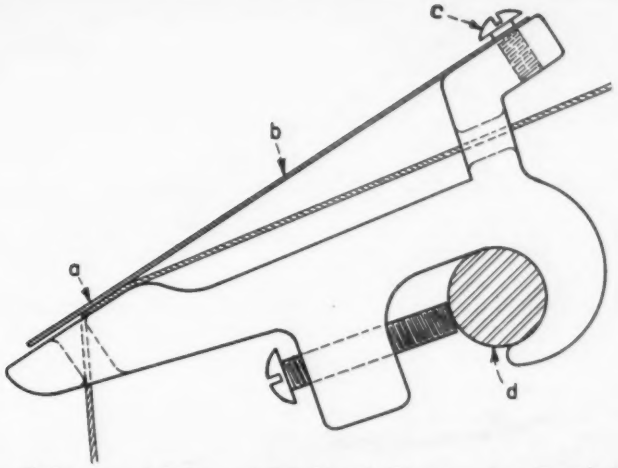
Used by More Throwsters Than Any Other Method

LEESONA

Kinks AND SHORT-CUTS

Tension on Knitting Yarns Can Be Quickly Adjusted

✱ **PRIZE WINNER FOR FEBRUARY**
(December contest)



Tension on all the yarns knitting on full-fashioned ribbers can be adjusted simultaneously and accurately by this tension device which replaces the tension felts. Tension is applied by the weight of a "gravity tongue" at point a and by the angle of pull on the yarn as determined by turning rod d.

It is well known that elastic ribs must be knitted with light tension on the yarn. When we tried to knit black worsted ribs on our new Lieberknecht rib machines, we cut holes in the fabric. After several trials, we found that we could solve the problem by installing a different-type tension device.

Full-fashioned machines, both plain and ribbers, are provided with a small tension box for each end of knitting yarn. Each box contains a piece of folded felt that can be raised by the knitter to obtain the amount of tension desired. The higher the felt, the greater the tension placed on the yarn. The felts may be used wet or dry.

Difficulty arises from the fact that the yarn wears the felt and the felt must be turned or replaced. Some mills knitting rayon use steel disks for controlling tension because of the difficulty of maintaining accurate and uniform tension with the felt pieces. One serious objection to the use of either felt or steel disks is that the tension on each end must be regulated individually.

The new tension regulator that we installed, shown in the accompanying sketch, eliminates both these objectionable features.

Tension is applied at point a by a piece of spring steel *b* resting by gravity on the yarn as it runs over the yarn carrier of the device. This gravity tongue—as we call it—is held in place by two screws, one of which is shown at point c. Screw c should not be run down tight. Only the weight of the gravity tongue *b* should act upon the yarn.

Additional tension is obtained by the angle of pull on the yarn created by the setting of the tension device. A tension assembly is mounted over each head on a rod, *d*, running the length of the frame. The tension on all the yarns knitting on the machine can be increased or decreased by turning rod *d* to raise or lower the assemblies at points a—which in-

A $25 SAVINGS BOND FOR YOUR KINK

✱ **You undoubtedly know of some kinks and short-cuts that are helpful to mill operation. Write them down and send them in. We pay promptly upon acceptance—*before* publication. In addition, we award *every month* a $25 Savings Bond for the accepted kink we consider most useful.**

Don't delay. Don't worry about dates. Send in your kink *now*. There is always a Savings Bond prize contest going on!

Don't take time to polish up your writing. We'll do that. Don't waste time to make a finished drawing, as our draftsmen will take over. Just write enough details and do enough drawing (if any drawing is necessary) to make clear to the editors how your idea works and what machine or process it is applicable to. Photos can be sent.

Look over the kinks in this and other issues. They will offer you some useful ideas, and they will also suggest other ideas you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments that are of merit—anything that will help production, improve quality, or cut costs.

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RULES OF CONTEST

1. No limit to number of entries.
2. New contest every month. Each contest closes with kinks received last day of the month. Prize winner is published the third succeeding month.
3. All kinks will be paid for on acceptance. Illustrations, when submitted, do not need to be finished drawings (penciled sketches are satisfactory); but they should be clear and complete. Prize awarded to winner is sent to him after publication. Good photos are acceptable.
4. Previously published material is not eligible for prize or publication.
5. Unless you advise to the contrary, we assume that we may sign your name to your kink when published.
6. Judges of the contest are editors of TEXTILE WORLD. Their decision is final.
7. Send your entries to either address:

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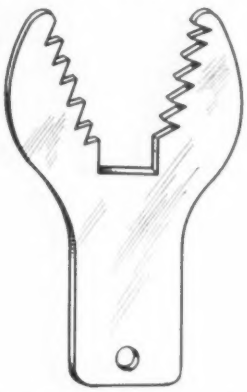
P. O. Box 1641
Columbus, Ga.

creases or decreases the acuteness of the angle at which yarn is pulled through the tension device and also increases or decreases the effective weight of the gravity tongue on the yarn.

In mounting the tension assemblies on the rod, it is important that all the assemblies be secured to the rod in the same plane. We found that the best plane was that which placed the gravity tongues approximately 45° below the horizontal. After we got them right, we found that we could forget them.

These tension devices showed no signs of appreciable wear after considerable service. Another advantage is that they proved to be self cleaning. *(K-772) Walter A. Simond, Franklin, N. H.*

This Homemade Tool Finds Many Uses



A handy tool that can be used to tighten or loosen a wide variety of nuts used in a mill can be made as shown here. One advantage of the tool is that it can be made as thin as desired so that lock nuts can be managed easily. A flat piece of steel, shaped as shown here, can be used. Cut the notches so that the points on one side tend toward the tool handle and those on the other side point in the opposite direction. By cutting the notches so that they are wider apart toward the end of the tool, nuts of various sizes can be worked with the tool. **(K-341)**

Abbott-Winder Motors Relocated to Avoid Choking

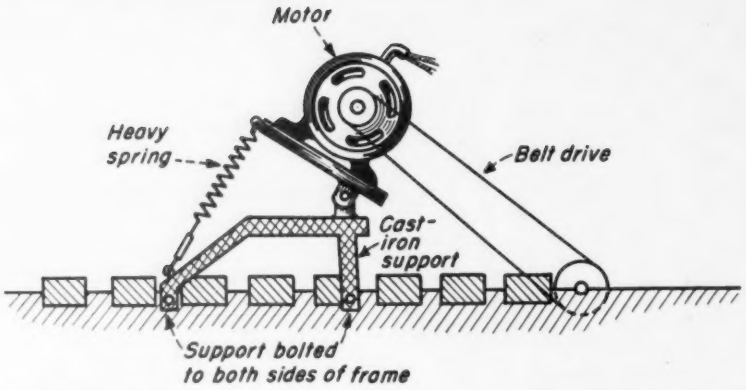
The motors that drive our Abbott winders were originally set directly beneath the shafts they drive. Of course, lint, small lengths of yarn, and dirt were continually falling onto the motors. We found that the motors had a tendency to choke up with this foreign matter and run hot. This condition was not only unsatisfactory and in the long run costly, but it also necessitated excessive motor maintenance, cleaning, and lubrication.

To eliminate trouble from this source, we mounted the motors on top of the winders, as shown in the accompanying sketch.

A cast-iron support for the motor was made and bolted to both sides of the winder. The base of the motor was mounted on this support. We located the base and motor some distance from the driven shaft so that the drive belt would be held in an inclined position between the motor pulley and the driven pulley, rather than in a vertical position as before. We have found that the drive belt is not so apt to come off now when the winder is started up.

To offset the pull of the belt against the motor pulley and to insure adequate tension on the drive belt, we attached the motor to the base on a pivot and secured a heavy spring between the back side of the motor plate and the base.

Another advantage we have found in this location of the motor is that the motor pulley is easier to change when the speed of the winder must be increased or decreased. *(K-790) J. B. Buyter, Fitzgerald, Ga.*



Choked motors that may run hot on Abbott winders can be avoided by placing the motors on top of the winders. When the motors are run in this location, lint, dirt, and yarn ends cannot fall into them.

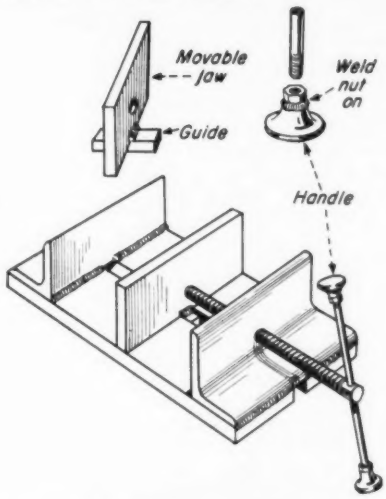
Filling-End Remover Cleaned With Wire Hook

On rayon looms equipped for removing filling ends by suction, the suction pipes occasionally get clogged with yarn and do not take up the yarn ends. This condition is particularly apt to occur when fuzzy decorative yarns, glass-fiber yarns, or even high-denier rayon yarns are being used. When the suction pipe clogs up, drag-ins at the change of filling quills will occur.

If the pipe becomes clogged, it must be cleaned out. A tool for easily cleaning the pipe can be made from a piece of heavy piano wire. Twist about three strands of the wire together, and make a hook at one end of the plied strands. The hook must be small enough and the curve of it sharp enough to permit the hook to be pushed through the clogs of yarn. A wooden handle can be attached to the other end of the plied wire.

To clean out a suction pipe, force the hooked end well into the pipe, past the yarn choke. Then pull the wire out. The hook will catch the yarn and pull some or all of it out. *(K-788)*

Vise for Welding Shop Made of Flat Bars



A vise for holding parts to be welded can be made as shown here. The vise can be used flat on the worktable, anchored at one end and pivoted to any position (within a circle) desired, or anchored firmly at both ends.

A vise that we find useful around our machine shop and welding shop is shown in the accompanying sketch. An important advantage in the use of a vise of this type is its flexibility. The vise can be laid flat on a work-

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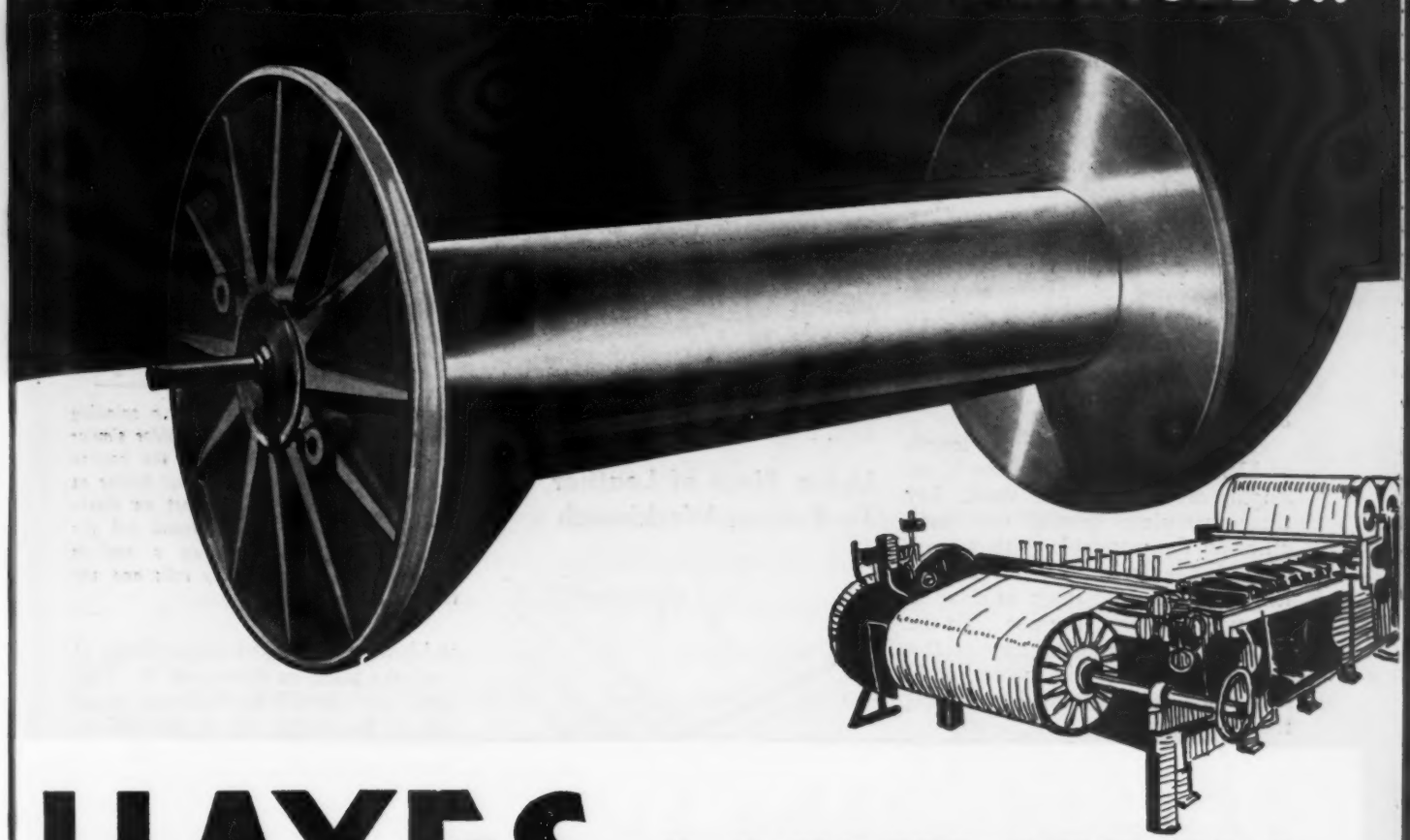

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KINKS & SHORT-CUTS

(*Continued from page 166*)

bench, anchored at one end so that the other end can be swung around in a circle, or anchored at both ends so that it is held rigidly in position.

The vise can be made of seven pieces of flat stock or three pieces of flat stock and two pieces of angle iron. Usually about a 6 or 7-in. width is sufficient. The length can be whatever needed to handle the machine parts or other material to be gripped in the vise.

Assuming that an over-all length of 12 in. is needed, secure two 12-in. lengths of 3 x 1-in. flat stock. Lay these two pieces parallel with each other on the worktable, with a space of 1 in. between. Secure a 7-in. length of 3-in. flat stock to serve as the movable jaw of the vise. To the center of one lengthwise edge of this jaw, weld a ¾- or ⅞-in. guide bar to slide along the slot formed by placing the 12-in. base rails 1 in. apart.

Now secure two 7-in. lengths of 3-in. angle iron (or make an angle by welding two pieces of flat stock together). Weld one of these to the base rails at each end, as shown in the sketch. These end pieces will hold the assembly together, and one will serve as the other jaw of the vise.

In the center of one end-angle iron, tap and thread a hole for receiving the screw with which the vise is loosened or tightened. Make a handle for one end of the screw so that pressure can be applied to the screw to tighten the vise.

To use the vise, place the work between the end jaw and the movable jaw. Tighten the movable jaw against the work by running the screw in and pushing against the back side of the movable jaw. *(K-793) The Lincoln Electric Co.*

Keep Travelers in Oil To Prevent Rust

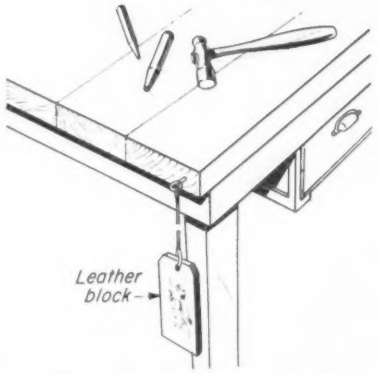
In most mills, little attention is given to the proper care of spinning-ring travelers, although travelers are one of the most critical parts of a spinning frame. Besides allowing travelers to be wasted by keeping them in small containers on the frame, permitting spinners to carry them around in their pockets and fixers to pour them out on their workbenches, travelers are often allowed to rust or accumulate dust and dirt.

Travelers, and rings, are seldom oiled; and to compensate for this lack of lubricant, we pour oil into our traveler boxes as soon as the boxes are opened. This oil remains in the boxes until all the travelers are used. Before putting the travelers on a frame, we remove the excess oil by wrapping the travelers in a piece of cloth.

The oil in the box saves the travelers from rusting and also prevents the accumulation of dust and grit. Also, the film of oil on the traveler when it is put on the spinning ring tends to reduce the friction generated during the "breaking-in" period.

We have found this practice to be beneficial. *(K-795) W. O. Blanford, Maysville, Ky.*

Use a Piece of Leather To Protect Workbench



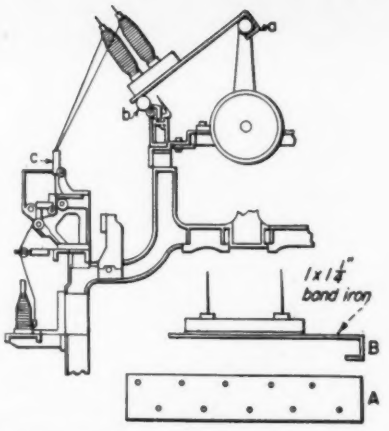
The top surface of fixers' workbenches frequently becomes splintered and full of holes because no precaution is taken to avoid driving punches, etc. through the work and into the bench. A leather or fiber block, attached to the edge of the workbench as shown here and used under the work, will protect the surface of the bench. **(K-509)**

Spinning Frame Used To Ply Woolen Yarn

Sometimes a woolen mill that does not have a twister may need to ply a small amount of yarn. If the amount of twisting to be done does not justify the purchase of a twister or if there is not time to secure a twister, the job of plying can often be done satisfactorily on a spinning frame.

To convert a spinning frame for this purpose, secure a piece of 2x6-in. lumber of a length equal to two strands of ends on the spinning frame. (If this number of ends will not produce sufficient plied yarn, the length of the board can be increased.) Drill holes in the board, as shown at **A**, so that spindles for holding the bobbins of yarn to be plied can be inserted. Used spindles from a mule or ring-spinning frame may be used if they are not so damaged that they will not permit the bobbins to turn freely.

Secure a piece of 1x¼-in. band iron,



Woolen yarn can be plied on a spinning frame by the use of a bobbin holder similar to the one shown at B. Place the hooked end of the holder over the spool holder at a and let the straight end rest on disengaged feed roll b. Yarn wound off the bobbin passes through guide c and is twisted between the delivery rolls and the take-up spool.

and bend one end of it in the shape of a square hook as shown at *B*. This band iron should be fastened crosswise to the under side of the 2x6-in. bobbin rack, and the straight end should extend 2 or 3 in. beyond the edge of the rack. The band iron should be long enough so that when the hook end is placed over spool holder *a* on the frame the other end of the band iron tests on feed roll *b*, Roll *b*, of course, is disengaged by raising the driving gear on the end of the roll.

This position of the rack places the bobbins of yarn far enough forward so that twister-tube *c*, which serves as a yarn guide, does not cause excessive drag on the yarn. The rack should be adjusted by the arms supporting it in the spool holders so that the bobbins are slanted at an angle of 60 or 62°.

A rack must be placed on each side of the frame and the spindles on both sides used for plying, whether one, two, or all sections of the frame are used. This step is necessary to prevent yarn bunches on the bobbins as a result of unsteady movement of the builder at the beginning of the up stroke.

If it is desired to ply two ends of 1.5-run yarn with four turns per inch of twist, it will take about 40 min. to make a full bobbin free of knots. *(K-773) Wm. E. Herrick, Pendleton, Ore.*

Remove Spinning Travelers With a Hardwood Hammer

A common way of removing travelers from the rings on a spinning frame is to insert a hook under the

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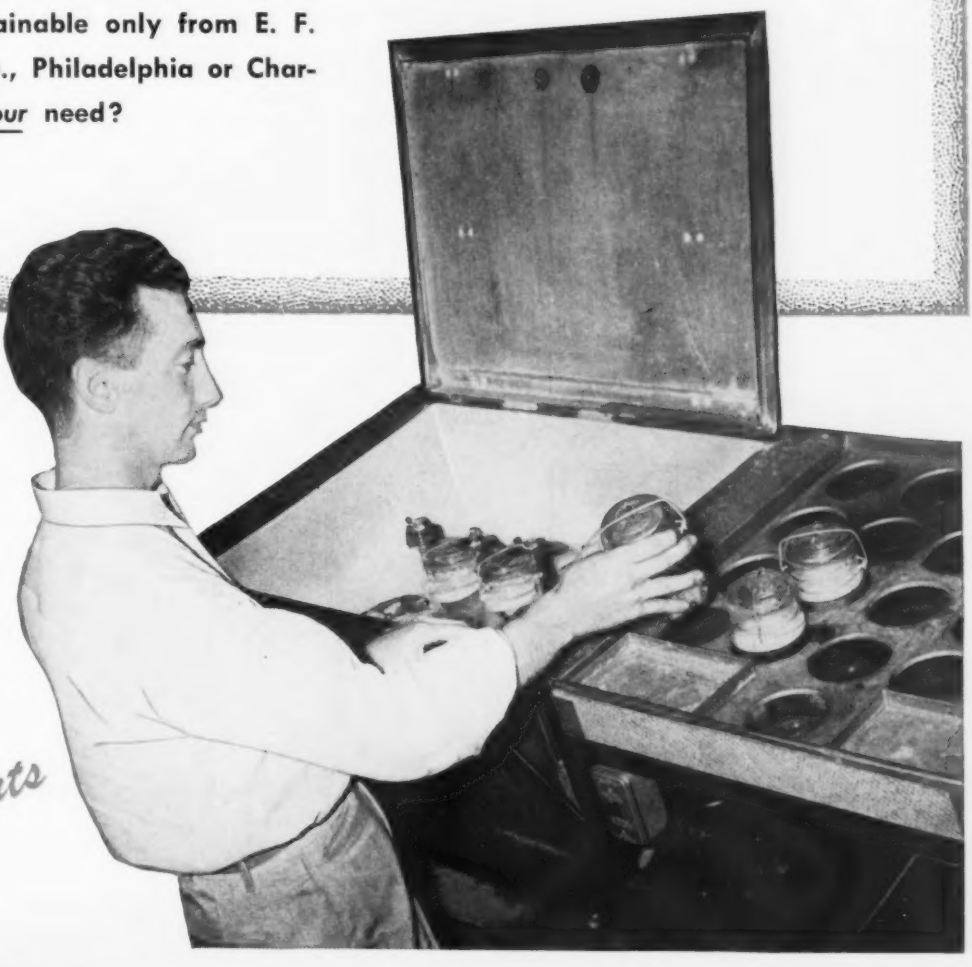


Houghton's Cerfak Detergents

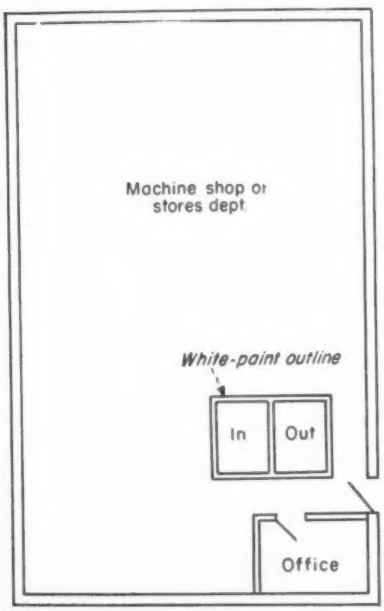
KINKS & SHORT-CUTS
(Continued from page 168)

traveler and pull sideways, breaking the traveler or snapping it off the ring.

There are two objections to removing travelers from the rings in this way. (1) If the traveler is heavy, and therefore strong, the ring may be pulled out of its proper alignment. (2) The worn points of the traveler are pulled up against the flange and may nick it. Either of these conditions results in a bad-running ring.

The best way to remove a traveler is to hit it, on top of the ring, a straight, sharp blow with a hardwood hammer. The face of the hammer should be perfectly smooth and should strike the traveler squarely. Such a blow will snap the traveler and not damage the ring or the alignment of the ring. *(K-796) W. O. Blanford, Maysville, Ky.*

"In and Out" Areas Reduce Confusion in Shop



"In and Out" areas, outlined on the floor with white paint, reduce confusion in machine shops and stores departments by making it possible for foremen to tell at a glance the repair jobs or parts that are incoming and those that are outgoing. These areas should be located near the shop or stores office.

Congestion and disorder can cause considerable loss of time and effort in a machine shop or general-stores department unless some provision is made for quick distinction between incoming and outgoing parts. Much confusion was eliminated at our shop by designating a section of the floor-space for receiving parts to be repaired and another section for parts that have been repaired.

As indicated in the sketch, these areas are located directly in front of the shop office, and the incoming and outgoing sections are outlined on the floor with white paint. Regardless of how congested the shop may become, these areas are not used for general storage.

By the use of these designated areas, the shop foremen can see at a glance the repair jobs to be done, and the man who trucks the finished parts back to the departments where they belong can easily tell which parts are ready to be returned. *(K-782) Richard Dilworth, Pawtucket, R. I.*

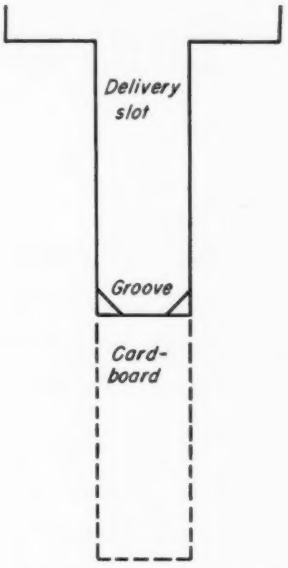
Safety Plates on Floor May Avoid Cloth Damage

In mills that run cloth to the nappers, shears, etc. from trucks, the practice usually is to roll a truck load of cloth to the front of the machine and leave the truck in that position until all the cloth is run.

Because of vibration of the floor, a truck will sometimes roll out of position, particularly when the operator is attending to some other part of his machine. The improper pull on the cloth that results causes the cloth to feed improperly to the machine and damages the cloth.

In order to prevent trucks from rolling out of position, grip plates of rubber, fabric, or metal should be laid on the floor at the points in front of the machines where the trucks stand. These plates, or mats, should be about 3 x 6 ft. so that all the wheels of the truck can stand on it while the cloth is being run. *(K-785) Paul W. O'Neil, East Chelmsford, Mass.*

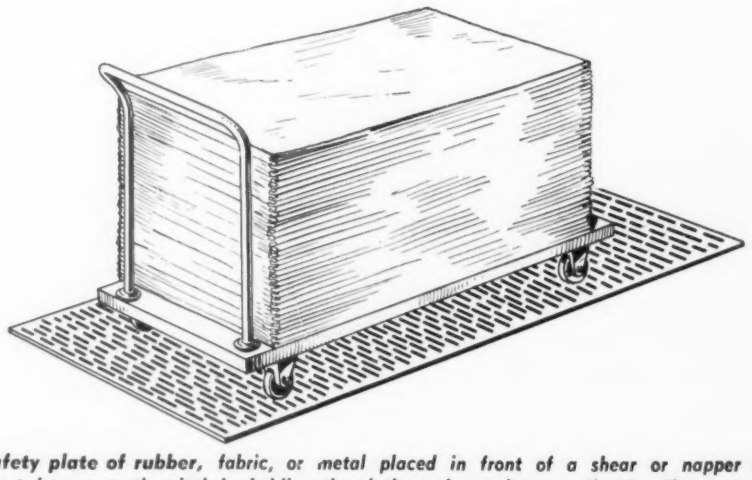
Insert Cardboard In Quill Machine



Quills slide down the delivery slot of a quill-stripping machine more easily and and choke-ups are lessened when this 2x18-in. strip of cardboard is inserted in the slot.

Quill-stripping machines often become clogged with quills in the slot through which cleaned quills are delivered by the machine. If the operator does not stop the machine and pull out the quills at once, the machine will break the quills that are held farther back in the machine. Sometimes, even the machine itself is damaged.

A 2 x 18-in. piece of cardboard inserted in the delivery slot will aid in preventing the machine from becoming choked with quills. The strip of cardboard should be pushed up into the slot until it reaches the groove where the slot narrows. Quills will slide more easily down the cardboard, thus avoiding many chokes. *(K-794) Ernest R. Spuehler, New Holland, Pa.*



A safety plate of rubber, fabric, or metal placed in front of a shear or napper may prevent damage to the cloth by holding the cloth truck steady on a vibrating floor.

FIVE BASIC ADVANTAGES IN *New* Square D LOOM SWITCH

A manual starter specifically designed for textile mill service—in Sizes 0 and 1

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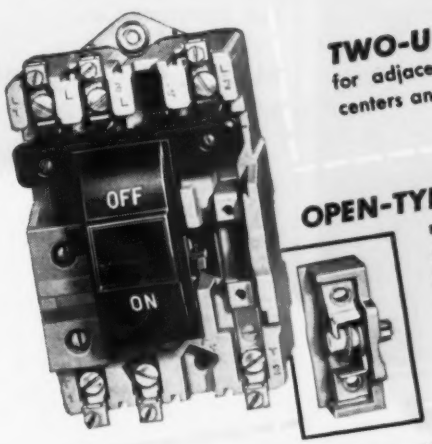
1 **Line terminals at bottom or top simplify wiring.** Starters mounted on pedestals (*right*) are usually fed from an electrical distribution system in the floor, whereas those mounted on the machine base are powered from overhead. All terminals are raised to facilitate connections.

2 **Recessed handle** prevents damage caused by foot operation or accidental collision. Ridges in steel cover give additional handle protection.

3 **Protected type overloads** are suitable for grouping several motors on a single set of fuses, typical of loom installations.

4 **Porcelain base** is non-carbonizing—therefore ideal for humid locations. Contact chambers are deeply recessed to provide generous electrical clearances and exclude falling lint.

5 **Sturdy enclosure** is not easily damaged by accidental collision. Cover is interlocked to prevent removal when starter is "ON". Single padlock may be used to hold cover in place and starter in "OFF" position.



TWO-UNIT MOUNTING on existing pedestals for adjacent motors is made practical by 5" mounting centers and knockout-type mounting holes.

OPEN-TYPE STARTER shows toggle operating mechanism, convenient terminals, deep porcelain base and 2-screw mounting strap. **Insert:** Melting alloy protected type overload relay, removed.

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(Continued from page 162)

level. Jacquard looms are an example where this condition may occur.

The 2½- or 5-gal. water pump tanks with spray attachments are considered adequate. Water-pump tanks with spray attachments are more effective than water pails because they make it easier to control the discharge of the water. Pump tanks retard evaporation and are more sanitary than water pails. However, water pails may still be considered effective where the fire hazard is minimized by occupancy and excellent housekeeping.

Gas-actuated extinguishers are very effective for controlling flames spread over cotton-lint surfaces. The flame-retardant action of dry powder is an important feature of this extinguishing method. The wide powder stream capable of reaching 20 to 30 ft. makes it possible to cover an area of 3,000 or more sq. ft. in 30 to 40 sec. with one 15-lb. gas-actuated unit. Flooding of the area above and adjacent to the fire with dry powder is recommended before direct application to the flame. Cotton lint, receiving a light deposit of powder, will not support a surface flame; but slow residual smoldering may persist where lint has depth. For this reason, it is necessary to have water in some form, preferably water spray, for mopping up purposes.

First-aid fire extinguishers can be expected to perform effectively only when they are used by properly instructed personnel. Too much stress cannot be placed on frequent and thorough training of key men on each shift.

Other types of fire extinguishers investigated proved less effective in various ways. *(R-393) R. G. Shepherd, Engineer, Associated Factory Mutual Fire Insurance Cos.*

Mental Housecleaning May Be of Benefit

The keeping of records is becoming more and more a necessary part of running a responsible job in a mill.

While the swift pace of modern industry does not change the value of experience as a commodity, the executive who hopes to keep pace with his industry must find new and better means of storing his experience. In the so-called "good-old days"—when competition was less keen, the profit margin more flexible, and production schedules on a happy-go-lucky basis—an executive needed only a few odd brain cells to store all needed facts. The textile man who today can keep within the con-

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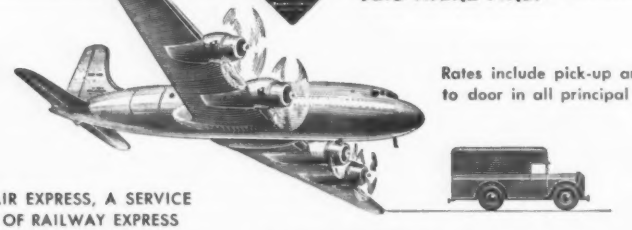

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fines of his mind the complexities of labor legislation, competition, union relations, raw-stock markets, technical progress, production, and marketing is indeed a miracle man. He is, also, a miracle man about to make the acquaintance of a psychiatrist. Certainly no man can keep within himself all the necessary facts and still maintain a normal, balanced life.

When responsibility cannot be delegated to others, the solution can lie only in efficient, pertinent records. Each individual must decide for himself which facts are necessary to make the essential, instantaneous decision during the course of a normal business day. These, alone, are the ones to be committed to memory. All others should be sorted and compiled in a simple record system, so indexed that an answer can be obtained in a matter of seconds.

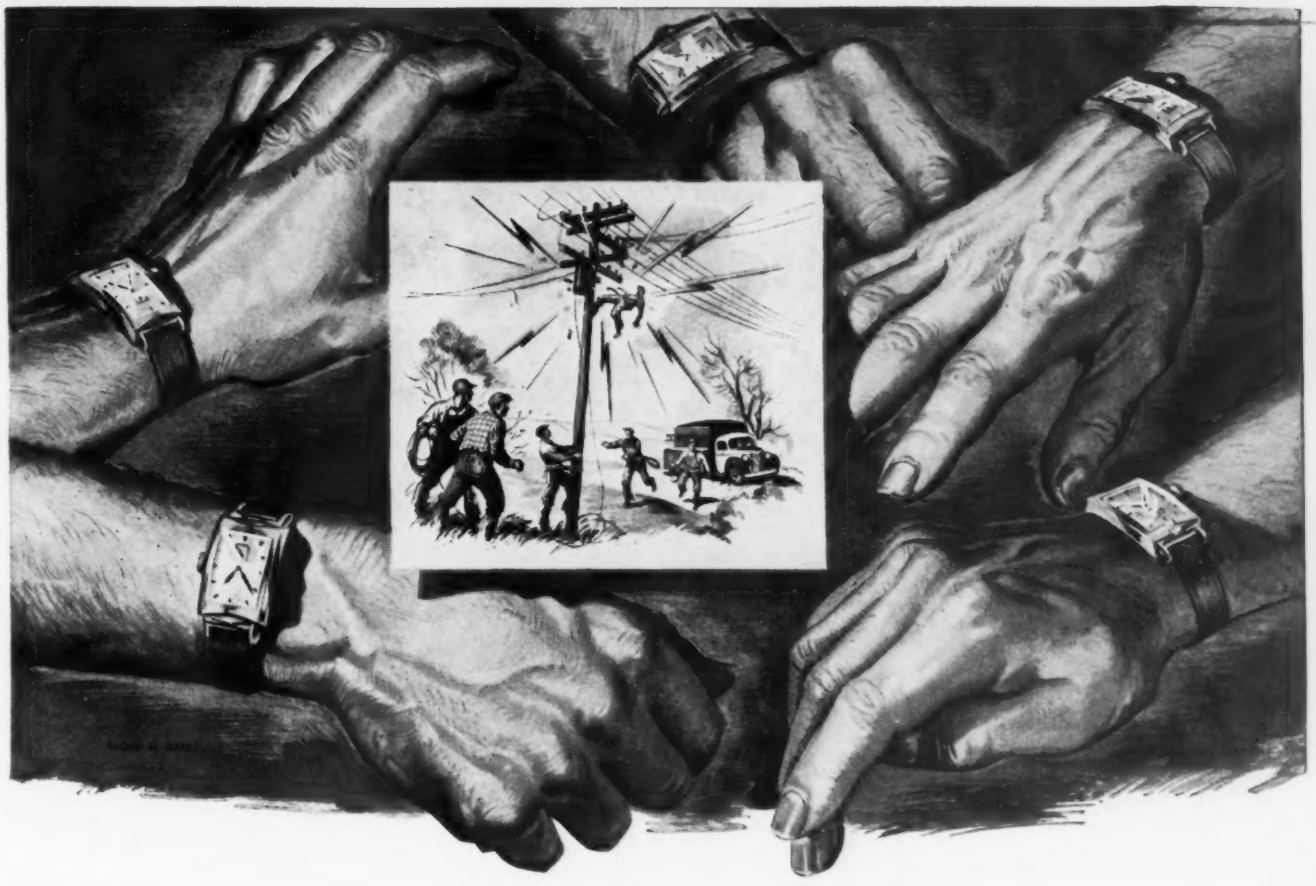
One great advantage of committing know-how to paper is that time has no effect on accuracy. Once a concise record has been made, the time interval between uses can be ten or twenty years; the record still remains fact. It will not be distorted by confusion with similar facts or colored by changing personality traits.

Using the tools of time and motion study, flow charts, job breakdowns, etc., most executives endeavor to keep an objective viewpoint toward the activities within their plants. If the executive would subject himself to a mental inventory and housecleaning at specific intervals, he would find himself a happier and more efficient person. No man is eager to accept new methods or responsibilities when he feels he is already overburdened with old ones. (*R-394*)

Plyweld Picker Sticks Have Been Improved

Your readers, and particularly those representing enterprising concerns are making an effort to secure greater efficiency at lower cost from textile machinery, appreciated Mr. Wenrich's article in your August issue [Many Factors Are Involved in Picker-Stick Economy, p. 124]. Extensive mill use and constant laboratory developments seem to pyramid evidence that the Plyweld picker stick has found its place in both box and plain looms in the textile industry.

Our process of streamlining Plyweld picker sticks has overcome 95% of the difficulties originally encountered in substituting Plyweld for hickory. We can reproduce in Plyweld the degree of flex, or whip, that any manufacturer desires. Our stream-



Six Workers + E-M Foresight = Five Heroes

Employers Mutuals Job Safety Training seemed "dull stuff" until the moment of tense drama came . . .

All six men of the power-line crew had received Employers Mutuals safety training... wondered whether such "dull routine stuff" was necessary, until one day—

A severe electric shock hurtled one of their number from a pole, his clothing aflame. His five mates, ready for such emergency, quickly beat out the flames, loosened his clothing, induced artificial respiration, had him well on the way to recovery within a half hour.

Each received a gold watch from Employers Mutuals in recognition of his part in saving a fellow worker's life.

Throughout industry, in every type of business, thousands of men and women are taught such life-saving practices, trained how to act in an emergency by Employers Mutuals engineers and industrial nurses.

Skill in accident prevention, control of industrial health hazards, development of first aid programs . . . all are accomplished with a tactful, human approach that builds good will and makes Employers Mutuals services unique in the insurance field.

Employers Mutuals write: Workmen's Compensation—Public Liability—Automobile—Group Health and Accident—Burglary—Plate Glass—Fidelity Bonds—and other casualty insurance. Fire—Extended Coverage—Inland Marine—and allied lines. All policies are nonassessable.

Your plant accident experience materially affects the cost of your workmen's compensation insurance. Send for Employers Mutuals' booklet, "Safety Engineering." It explains the importance of such facilities and experience in keeping your accidents under control. Also be sure to have our "Dictionary of Insurance Terms." It will help you to understand the provisions of your policies. Send for these valuable, informative booklets on your letterhead—or call your local Employers Mutuals man.

Employers Mutuals Policies Protect Lives, Health and Property

EMPLOYERS MUTUALS OF WAUSAU ... make insurance understandable

EMPLOYERS MUTUALS OF WAUSAU

EMPLOYERS MUTUAL LIABILITY INSURANCE COMPANY OF WISCONSIN
EMPLOYERS MUTUAL FIRE INSURANCE COMPANY
HOME OFFICE: WAUSAU, WISCONSIN
Offices in Principal Cities—Consult Your Telephone Directory

STOP FIRE FASTER

WITH AN

THE MASTER OF FLAME
ANSUL
REG. U.S. PAT. OFF.
FIRE EXTINGUISHING EQUIPMENT

DRY CHEMICAL

FIRE EXTINGUISHER

● FASTER fire-stopping power is your first requirement when fire breaks out... and Ansul Dry Chemical Fire Extinguishers give you that extra margin of protection against major fire damage.

● In addition, you get GREATER fire-stopping power... because Ansul Plus-Fifty Dry Chemical releases its flame smothering gases in the heart of the flames.

● For fires in flammable liquids and in electrical equipment, Ansul Dry Chemical Fire Extinguishers provide greater protection... pound for pound and dollar for dollar than any other extinguisher.

Get the facts. Ask for authoritative comparative ratings as determined by a national approval agency.

MADE BY THE MANUFACTURERS OF ANSUL DRY CHEMICAL FIRE EXTINGUISHERS, MODELS 4, 20, 30, 150-A AND 350-A.

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION, MARINETTE, WISCONSIN

lining method results in accurate flex, longer wear, and the same margin of safety as is found in hickory when a hang-up occurs. If the Plyweld stick is made exactly to the dimensions of a heavy box-loom hickory stick, the chances are that it will not do the job to the best advantage.

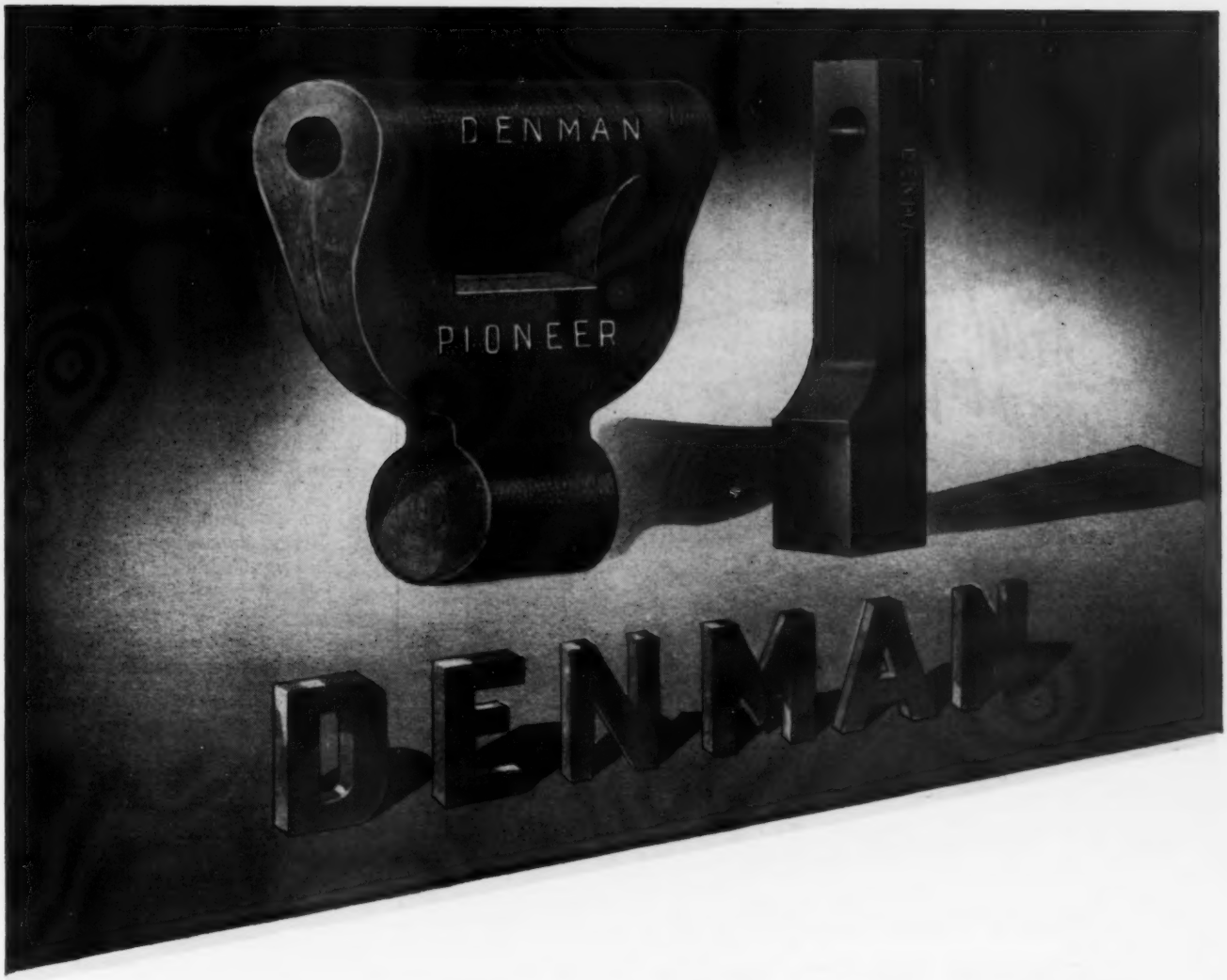
We believe that since the time of Mr. Wenrich's observations in the narrow-loom field we have overcome all the objections that he raised and can now cope with any speed and any flex. Screws to hold the loop picker on are now no longer a problem. The "Hammer lock" serrated hook gives a tight fit to the picker on the stick. (On Crompton & Knowles looms, self-tapping screws are inserted into a tapped-out hole in the top of the stick. If this is done, no crystalization of screws results.)

Higher speeds of all types of looms make it profitable to use Plyweld picker sticks because hickory fatigues when operating at these plus speeds. A mill using Draper XL looms on 100-in. sheeting has just ordered a quantity of Plyweld picker sticks as a result of their experience of over two years' use from their original trial-order sticks.

As Mr. Wenrich pointed out, the first cost of a picker stick is not to be considered as the definite out-of-pocket expense. What counts is the number of times Plyweld outwears hickory, the increased production of fabric, and the lower cost of the loom-fixing, as well as the savings experienced in fewer broken parts. Our records show that former hickory picker-stick customers are now using an average of only one-fifteenth of the number of picker sticks since they changed to Plyweld.

Hang-ups occur as a result of the breakage of any picking motion part, from an improperly boxed shuttle, or from an improperly timed loom. If the fixer in the mill is lax, chances for hang-ups are greater. When a hang-up does occur, the cause should be determined before putting on another Plyweld stick. Plyweld breakage on the box side is then reduced; and with Plyweld lasting longer on the box side, production is again increased and costs decreased.

The quality of Plyweld is highly uniform, since it is made under laboratory conditions, while hickory, being nature's product, tends to warp; hickory varies as much as 200% in weight and quality and can never be uniform. Plyweld does not do any damage to the wearing qualities of other loom supplies if the loomfixer compensates for its hardness. If picker



THE PICKER WITH THE LOW COST RECORD

Compare Denman's hourly loom cost with that of other pickers. Let comparison determine whether you are getting maximum efficiency and performance at lowest possible cost.

The fine record of Denman service and economy is due to the remarkable cooperation between textile mills, Terrell field men, and Denman research engineers. Together they have developed pickers you can rely upon for the most economical performance in both high and low speed continuous service.

When you standardize on Denman, there is an extra dividend in the satisfaction of knowing these pickers have proved their ability to give

LOWEST COST PER LOOM PER YEAR

Exclusive Sales Agent

THE TERRELL COMPANY

CHARLOTTE, N. C.

These floors are 5 times brighter than before
LIGHT METER shows 60 foot candles reflected from dry-cleaned floor, 10 foot candles from scrubbed floor. (Name of customer on request.)

Because they're DRY CLEANED, with the *TENNANT* Floor Maintenance *System*

Measuring light-reflection with a meter, this mill superintendent finds that his Tennant *dry-cleaned* floors are 500% brighter than adjacent areas (which were scrubbed). In addition dangerous slip-hazards have been decreased, rough spongy surfaces eliminated and average cleaning *time* per square foot has been cut by about 80%.

Safe Working Conditions Boost Employee Morale!

Dark, slippery, oil-soaked floors absorb light, cause accidents and lower morale. But with the Tennant System *your floors can quickly be reconditioned* and made clean, dry and bright —real assets to your mill's production.

- ***Restores.*** Removes dark, soft topwood fibers; leaves sound, vigorous surface.
- ***Hardens.*** Seal fills, binds, hardens floor. Makes it bright, durable.
- ***Dry Cleans.*** Eliminates scrubbing! Keeps floors clean, smooth, bright. Fast, convenient, economical.

WRITE FOR BULLETIN

G. H. TENNANT CO.
2586 N. 2nd Street
MINNEAPOLIS 11, MINNESOTA

Tennant Floor Machines are available for 8", 12" and 16" drum accessories.

The way to finer floors
ELIMINATE **TENNANT** **SCRUBBING**
Floor Maintenance System

rivets cause wear, a picker without rivets can be used. If the Plyweld stick develops edges that catch the picker, thereby throwing a wobbly shuttle, the stroke should be lengthened to cause the wear to be in a longer space and in a more gradual curve.

We have definitely discarded the use of more than 14 laminations to build up a 1-in.-thick picker stick, as experiment proves that more than 14 laminations make the picker stick too brittle. However, we hope to continue to improve the life and wearing qualities of our new product and urge the cooperation of all mill men in making improvements. *(R-391)* W. *Irving Bullard, president, E. H. Jacobs Mfg. Co.*

Textile World Indexes Are Available

Some magazines publish a yearly index of articles that have appeared during the previous twelve months, and we are wondering if TEXTILE WORLD renders a similar service. If so, we should like to obtain copies of the 1944, 1945, and 1946 indexes, as well as the 1947 edition when it is available.

[Yes, TEXTILE WORLD does publish an annual index, and it is available on request, as stated on page 3 of each issue. We are sending the inquirer the issues requested, except 1947 which we will send later, and shall be glad to do likewise for any other subscriber who may want them.—Ed.]

TEXTILE WORLD is a consolidation of *Textile World Record* and *Textile Manufacturers Journal*, effected in 1915.

Textile World Record was the paper resulting from the merger, in 1903, of TEXTILE WORLD and *Textile Record*. The former was founded in 1888 by Walter B. Guild and Henry G. Lord. In 1895 it absorbed *Industrial Record*, formerly *Manufacturers Review & Industrial Record*, which was started in Boston in 1868. *Textile Record* was founded in 1880 in Philadelphia by Charles Heber Clark and Frank L. Nagle.

Textile Manufacturers Journal was founded in New York in 1894 by Joseph H. Bragdon. The merger of *Textile World Record* and *Textile Manufacturers Journal* in 1915 resulted in the formation of Bragdon, Lord & Nagle Co., Inc., and publication of *Textile World Journal*, later shortened to TEXTILE WORLD.

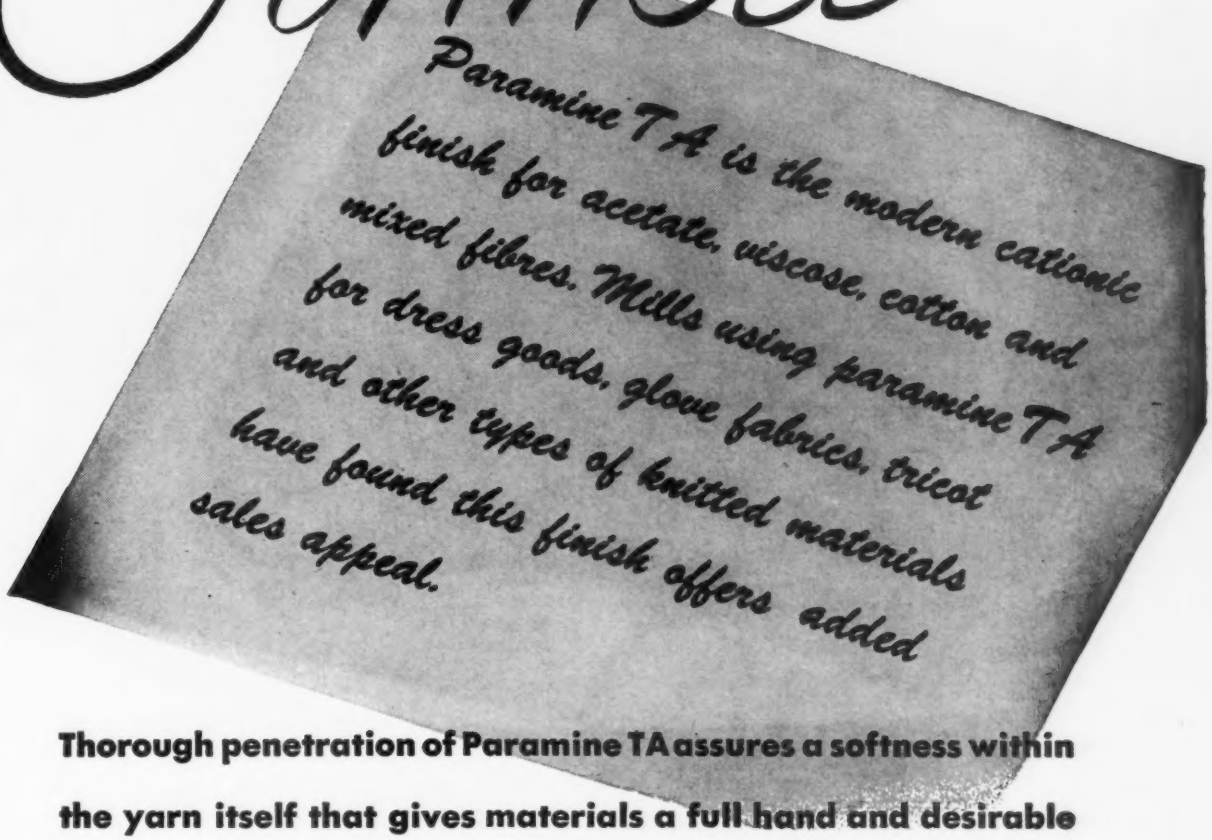
In 1923, *Posselt's Textile Journal* was absorbed by TEXTILE WORLD; and in 1924, *Textiles* was also absorbed.

In 1928, TEXTILE WORLD became affiliated with the McGraw-Hill Publishing Co.

This statement is published in these columns once a year as a matter of record.

IF YOU WANT

DURABLE *Softness*


Paramine TA is the modern cationic
finish for acetate, viscose, cotton and
mixed fibres. Mills using paramine TA
for dress goods, glove fabrics, tricot
and other types of knitted materials
have found this finish offers added
sales appeal.

Thorough penetration of Paramine TA assures a softness within the yarn itself that gives materials a full hand and desirable drape—its substantive action produces a durable, lasting finish —Application is simple.

Use Paramine TA

*Reg. U. S. Pat. Off.

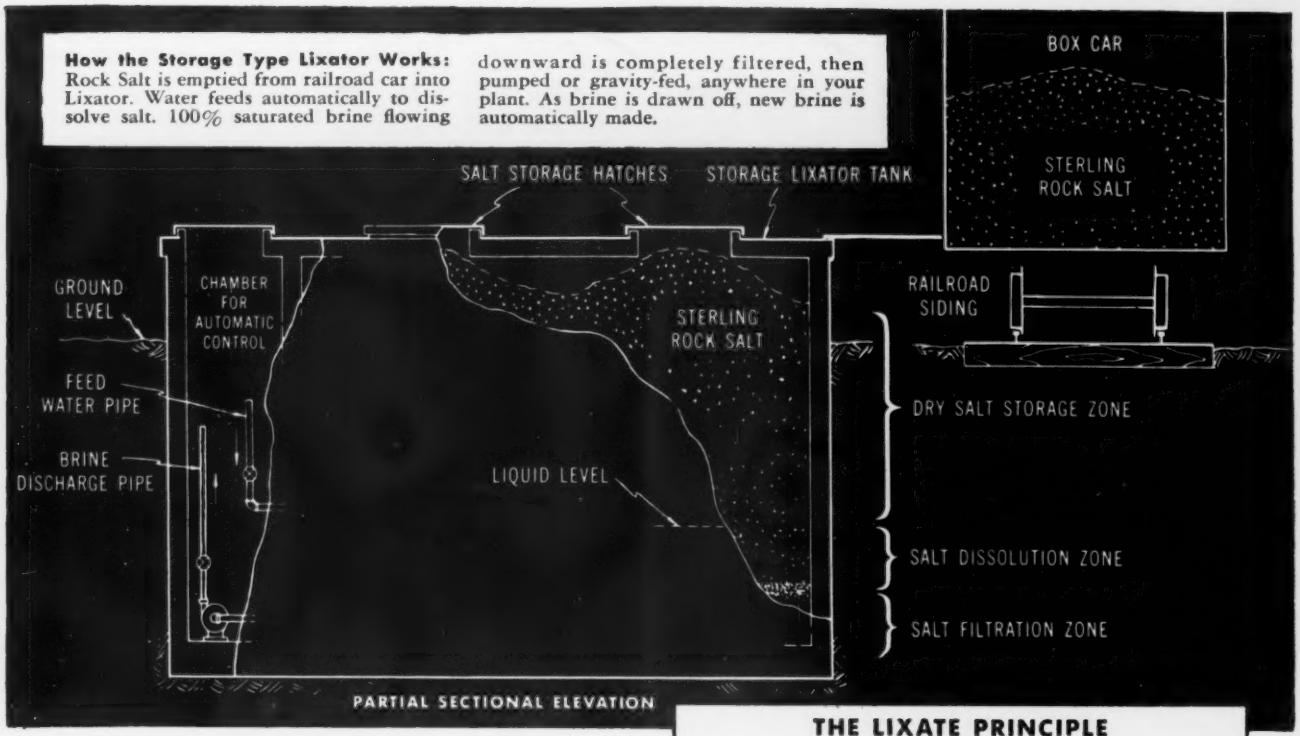
WRITE FOR DETAILS OR DEMONSTRATION

Arkansas Co. INC.

Manufacturers of Industrial Chemicals for Over 40 Years

NEWARK, NEW JERSEY

A Storage Type Lixate Rock Salt Dissolver Suitable for a Textile Mill


How the Storage Type Lixator Works: Rock Salt is emptied from railroad car into Lixator. Water feeds automatically to dissolve salt. 100% saturated brine flowing downward is completely filtered, then pumped or gravity-fed, anywhere in your plant. As brine is drawn off, new brine is automatically made.
BOX CAR
STERLING ROCK SALT
SALT STORAGE HATCHES
STORAGE LIXATOR TANK
GROUND LEVEL
CHAMBER FOR AUTOMATIC CONTROL
FEED WATER PIPE
BRINE DISCHARGE PIPE
STERLING ROCK SALT
LIQUID LEVEL
RAILROAD SIDING
DRY SALT STORAGE ZONE
SALT DISSOLUTION ZONE
SALT FILTRATION ZONE
PARTIAL SECTIONAL ELEVATION

Storage Type Lixators Cut Salt-Handling Costs, Assure Spot-Free, Even Dyeing for Cannon Mills

SINCE installing two *International*, Storage Type Lixators to produce brine in volume as the exhausting agent for its dye baths, Cannon Mills' Plant No. 6 has recorded these benefits:

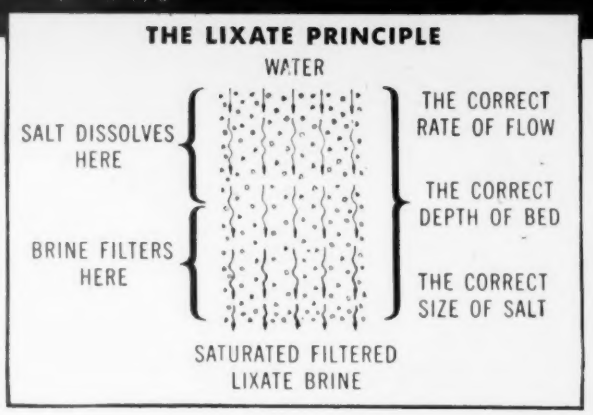
Important operating savings.

Virtual elimination of laborious salt handling.

Elimination of spotty, uneven dyeing due to undissolved salt.

In addition, where operators once had to stir salt into 32 separate machines, all machines are now supplied with brine *piped* from two interconnected Lixators which are *wholly automatic in operation.*

An exclusive International development, the Lixator produces 100% saturated, crystal clear, self filtered brine from Sterling rock salt.



With long experience cooperating with the textile industry, *International's* engineers are thoroughly familiar with the uses of salt as brine in dyeing machines and vats, and for regenerating zeolite water softeners. Free consultation is invited on the efficient handling of salt as brine in standard Lixators, as well as counsel in designing and building Storage Type Lixators to match any brine needs.

The attached coupon will receive prompt attention.

INTERNATIONAL SALT COMPANY, INC.
Dept. TW-2, Scranton, Pa.

Gentlemen:

I would like complete information about the Storage Type Lixator.

Name _____

Firm _____

Street _____

City _____ *State* _____

The **LIXATE** *Process*
Reg. U. S. Pat. Off.
for making brine

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

MANUFACTURERS' BULLETINS

A REVIEW of the month's outstanding trade literature. Items are listed one month only—no repeats.

Free FOR THE ASKING

1. Many spinning calculations are simplified and presented in graph form in a recent issue of *Platt's Bulletin*. Information on the **Nelson continuous rayon-spinning** process is also included.

2. Percent stretch or shrinkage in textile processing or speed ratio of machines operating in series are said to be given continuously by the speed-ratio-tachometer described in a recent publication of Weston Electrical Instrument Co.

3. Fire extinguishers of the dry-chemical type, especially suited for cotton fires, are described in a recent bulletin by Ansul Chemical Co.

4. Use of the microscope in studies of fiber and fabric structure, treatment damage, dye penetration, color-defect causes, effect of fiber finishes, and fiber identification are discussed in Calco Technical Bulletin No. 796.

5. Inventory financing through warehouse receipts and use of inventory as collateral for working capital loans is discussed in a booklet available from Lawrence Warehouse Co.

6. "Wrist-action shaking" of laboratory flasks, bottles, separatory funnels, etc. simulates the snap of the wrist, creating a swirling splash, according to a recent booklet issued by Burrell Technical Supply Co.

7. Stability with unbalanced loads is possible with the new self-balancing extractor, according to the Fletcher Works in a recent folder containing full technical data.

8. The Taper-lock flexible coupling, a packaged coupling ready to install without reboring, is described in a folder offered by Dodge Mfg. Corp. Full technical and engineering data are included.

9. Continuous viscosity measurement of size solutions is one application claimed for the Viscorator, a viscosimeter described in catalog section 88-D available from Fischer & Porter Co.

10. What makes a film of finishing material dry is answered in a recent publication, "A Film is Born," offered by Interchemical Corp. An interesting insight into drying by evaporation, oxidation, and polymerization is given.

11. Measuring wall and corrosion thickness from one side only of metallic surfaces and how it is done by the Electroflux thickness gage is covered in a folder issued by Scott Electroflux Co.

12. Materials-handling flexibility and economy is provided by the Palletier Model MGVH fork lift truck, according to a descriptive folder issued by Crescent Truck Co. Specifications and application data are included.

13. Efficient wool spinning is a product of static-free carding, says a recent folder of Chapman Static Neutralizer Co. which shows and describes the application of the Chapman neutralizer to wool cards, Peraltas, and tape condensers.

14. Maximum steam-generating performance of boilers is aided by use of water columns and gages described and illustrated, along with full engineering data, in a booklet issued by Yarnall-Waring Co.

15. Low-cost, snap-action switch-unit-needs may be filled by use of Micro SK switches, a line of small, unhoused, lightweight units described in a folder offered by Micro Switch.

16. Proxol, Procter & Gamble's new wool oil is claimed in a new booklet to be self-emulsifiable, to have small particle size and excellent stability in emulsion form, to be anti-static, non-corrosive, and to have excellent ageing and scouring characteristics.

17. Time- and cost-saving gravity and power conveyors of various types, conveyor supports, portable belt conveyors, piling machines, and retractable conveyors are shown and described in Standard Conveyor Co. recent booklet.

18. Production delays caused by ruts and holes in wood and concrete floors may be prevented by use of Stonhard resurfacer, according to a recent folder offered by Stonhard Co.

19. Measurement of pile thickness on carpets and plush, etc., to a thousandth of an inch in a tenth of a second is claimed for use of the Metzger pile-height micrometer in a recent folder issued by F. F. Metzger & Son.

20. Development over 50 yr. of facilities for manufacture of modern mechanical power-transmission equipment is described and illustrated in a brochure prepared by T. B. Wood's Sons Co.

21. If hot-running welding cables and connectors are impairing your welding operations, causes and cures for the

***MILL EXECUTIVES** may secure copies of literature reviewed on these pages by using the post cards below. Fill out COMPLETELY one coupon for each piece wanted.*

Instructions for use of post cards on other side

Write in box the number of item describing one catalog wanted. ☐

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TEXTILE WORLD

330 WEST 42nd STREET

NEW YORK 18, N. Y.

McGraw-Hill Publishing Co., Inc.

trouble are discussed in a recent service bulletin issued by Tweco Products Co.

22. Wetting agents, detergents, emulsifiers, spreaders, foamers, softeners, defoamers, and quaternary ammoniums are surface-active agents described in a folder available from Alrose Chemical Co.

23. The source of production stops on individual machines is recorded by the Chronolog, a recorder which counts, prints, keeps productive and idle time, establishes production by periods, indicates the reason for idle time, and provides comparisons on cost, payroll, and production figures, according to a brochure offered by Chronolog, Inc.

24. Need steel? Joseph T. Ryerson & Son's recent booklet lists stock sizes, shapes, finishes, and conditions of medium, and high-carbon, free-machining, and carbon-manganese steel, heat-treated alloys, and tool steels available for shipment from the Ryerson warehouses.

25. A modern opening room and organization designed by H & B American Machine Co. is shown and described in a recent folder.

26. A metallizing gun built for long service at top speed is the Mogulectric, according to a folder available from Metallizing Co. of America. Electrically driven, the gun is said to make finer deposits, have a concentrated spray, and to deposit less oxides in coating.

27. Selecting the right Texrope V-belt drive for various needs is assisted by a booklet of specifications and engineering data prepared by Allis-Chalmers Mfg. Co.

28. "Rayon Mile by Mile—Perfect Inch by Inch" is the title of Industrial Rayon Corp.'s new 24-page booklet describing its continuous-process manufacture of yarn.

29. Electric-welding-equipment users will be interested in the 12-page catalog of Tweco Products Co. The company's complete line of holders, ground clamps, cable connections, machine terminals, cable splicers, etc., is described.

30. How to apply "packaged" a.c. generators is discussed in a recent issue of "The Synchronizer," publication of Electric Machinery Mfg. Co. Included are seven handy tables for generator and wire selection.

31. Attaching of flat elastic to knitted shorts, etc. is shown and illustrated in folder 885 of Willcox & Gibbs Sewing Machine Co. covering machine style 970-ACWS equipped with perfect-stretch elastic tension device.

32. Anti-friction-bearing load calculations, various bearing load conditions, a load-modifying chart, lubrication and care of bearings, and various other formulas and data of help to engineers are contained in 260-page catalog "K" issued by Federal Bearings Co.

33. Weighing operations can be reduced to a simple "load and look" operation, according to a folder issued by Yale & Towne Mfg. Co. illustrating and describing its line of Load-King dormant platform scales.

34. Selection and application of Armstrong humidifiers to various processing problems is discussed in a booklet offered by Armstrong Machine Works.

35. Roving trucks said to be specially designed for needs of textile manufacturing are listed and described in a folder prepared by Truitt Mfg. Co.

36. Vertical-transportation engineering and planning is a service offered by Otis Elevator Co. in a new 12-page descriptive booklet.

37. How to reduce paint-brush costs is discussed in a folder introducing the new line of paint brushes of Fuller Brush Co.

38. Sealing a case properly is easy when you know how, says the 36-page booklet on sealing corrugated and solid-fiber containers issued by Robert Gair Co., Inc. Proper use of adhesives, gummed-paper tape, metal stitches and staples, and metal strapping is covered thoroughly.

39. Use of extruded aluminum parts in spinning, roving, and twisting frames, and corresponding reduction in load on builder, in shipping cost, and in improvement of appearance is discussed in a folder offered by H & B American Machine Co.

40. Ultrasonics in research problems and use of the Ultra-Sonorator generator is discussed in recent descriptive literature issued by Fisher Scientific Co.

41. Reduction of production and storage costs through correct application of modern materials-handling machinery, and use of the Yale & Towne line of hand lift trucks are covered in the company's catalog S45.

42. Industrial protective clothing of rubber and Koroseal is described and illustrated in a 12-page catalog section available from B. F. Goodrich Co.

43. Thermocouples, protection tubes, and pyrometer accessories of Bristol Co. are described in bulletin P1235. Full specifications and engineering data on selection of thermocouples and protection tubes are included.

44. Selection of centrifugal pumps for various applications is simplified by use of a handy guide booklet offered by Allis-Chalmers Mfg. Co.

45. Distilled water may be quickly tested by use of the PM2 purity meter described in a folder issued by Barnstead Still & Sterilizer Co., Inc.

46. Lap seam felling on shirts, pajamas, shorts, slacks, etc. by the Feldlock feed-off-the-arm felling machine with automatic lubrication is discussed in a booklet offered by Willcox & Gibbs Sewing Machine Co.

TO GET MORE INFORMATION

1. Fill out completely *one space* (name, title, company, address, and item number) *for each* bulletin wanted. Put only one number in each square.

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3. Detach, add postage and mail.

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AS *Modern* AS THE *Rayon Industry*

AND STANDARD FOR THAT INDUSTRY

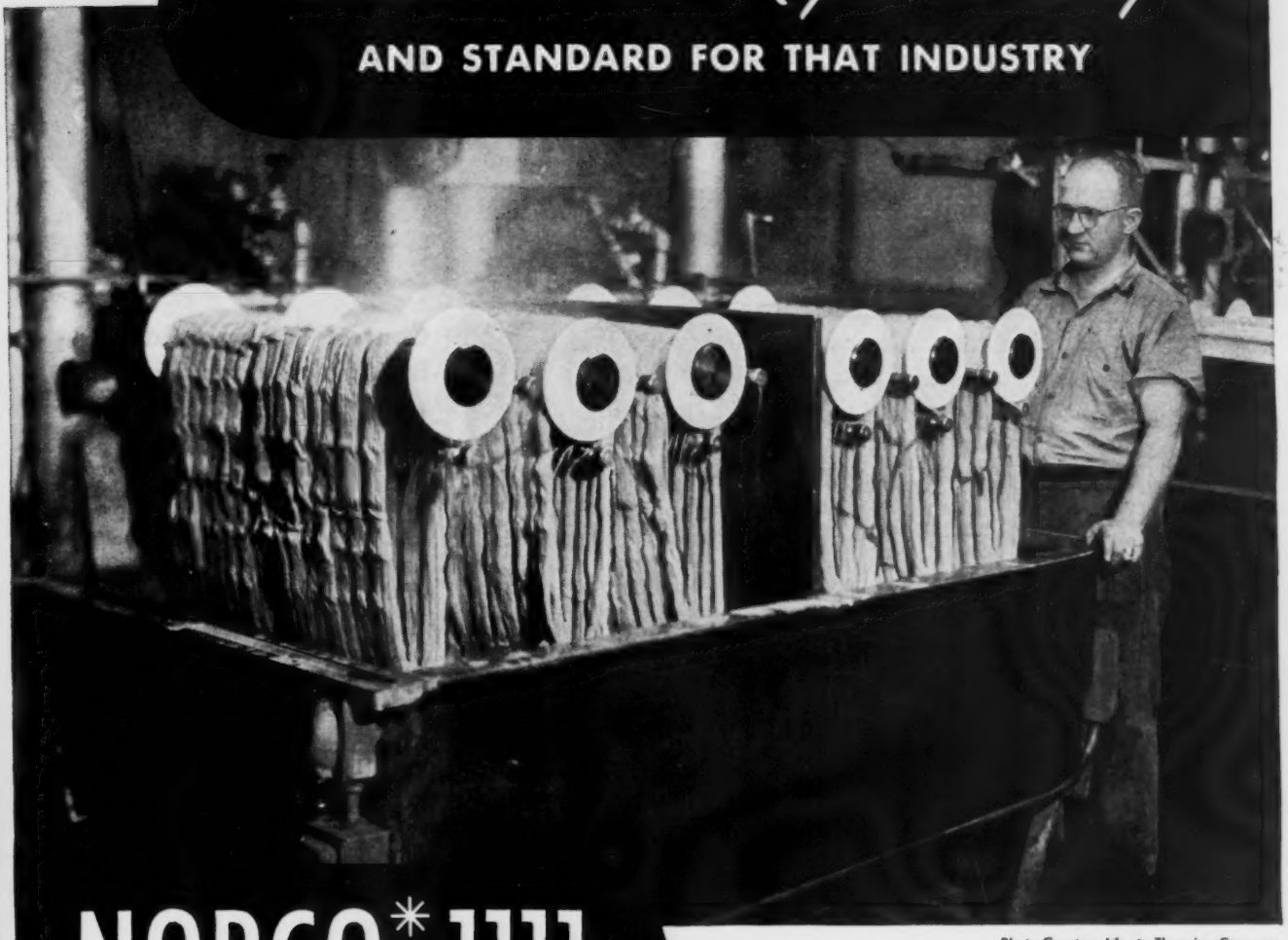


Photo Courtesy Liberty Throwing Company

NOPCO* 1111

PREMIER CREPE SOAKING OIL AND WARP SIZE SOFTENER

The rayon industry—one of the *most modern* of industries — turns naturally to *modern* machines, *modern* methods and *modern* processing materials to help increase volume, enhance quality and lower production costs — turns also to NOPCO 1111, acknowledged Standard of the Industry. Why?

Because today NOPCO 1111 means—as it has meant for more than a quarter of a century—many unique advantages for the Rayon Throwsters and Weavers throughout the world.

IT MEANS . . . unsurpassed softness and lubricity, higher winding efficiency, reduced ends down, fewer knots in yarn, more nearly perfect finished goods . . . controlled pebble . . . easy removal during boil-off . . . no volatilization in drying . . . complete freedom from oxidation and rancidity . . . plus other advantages that make NOPCO 1111—*now as always*—the premier product of its kind.

Read the two booklets widely accepted by the Rayon Industry for basic facts—"Important Points Regarding Rayon Warp Sizing" and "NOPCO 1111—Soaking Oil for Rayon Crepe Yarns". These valuable NOPCO booklets are available upon request.

NOPCO CHEMICAL COMPANY, Harrison, N.J.

Formerly National Oil Products Company

Branches: BOSTON • CHICAGO • CEDARTOWN, GA. • RICHMOND, CALIF.

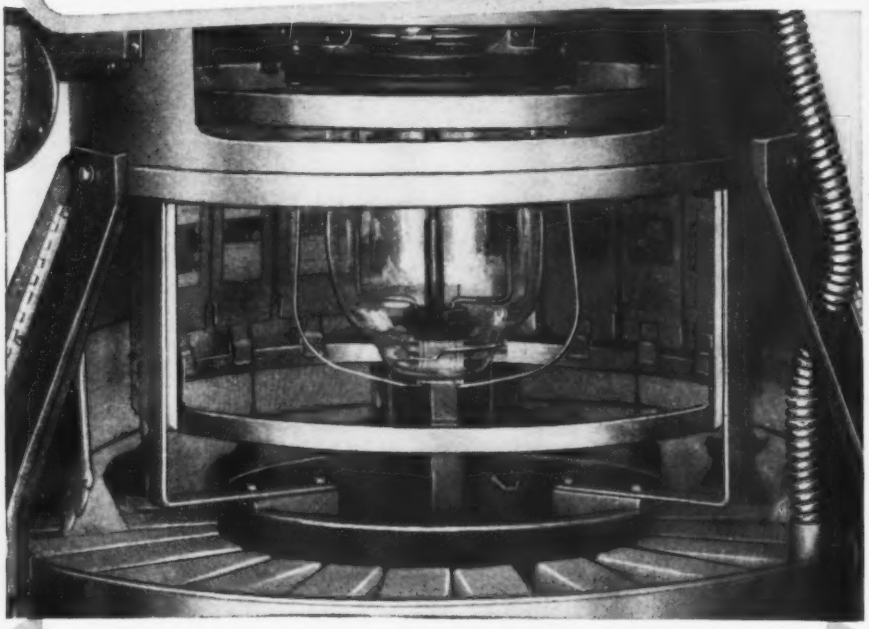
*REG. U. S. PAT. OFF.

NOPCO EVOLVED THROUGH RESEARCH

ATLAS FADE-OMETERS

Now have an improved method of specimen suspension assuring a more equal distribution of radiant energy for all samples.

Available for installation on all Model FDA and FDA-R Fade-Ometers now in use.



A lower ring engaging the new modified specimen holders supports the specimens during exposure in such a way as to assure a more equal distribution of energy for all samples.

Developed at the request of and in cooperation with the A.A.T.C.C. Committee on Fastness to Light the new holders and lower ring prevent discrepancies in test results caused by unequal distances from the specimen to the light source resulting from improper alignment of the holders.

This new method of suspension improves accuracy of test results since it materially reduces the possibility of deviation of the specimens from the vertical due to the human element or for mechanical reasons.

The lower ring can be installed on all Model FDA and FDA-R Fade-Ometers now in operation, adapting them for use with the new type specimen holders. In addition to the holders finished in baked-on gray enamel we now are also able to supply at slight additional cost the new modified specimen holders fabricated from a dull finish stainless steel.

Write for complete information on this new improved method of specimen suspension for your old machines.

ATLAS ELECTRIC DEVICES CO.

361 W. Superior Street, Chicago 10, Illinois

Originators and sole manufacturers of Fading, Weathering and Laundering testing machines for over a quarter of a century.

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FADE-OMETERS • WEATHER-OMETERS • LAUNDER-OMETERS

Questions and Answers

Control Woven Width By Allowing for Shrinkage

Technical Editor:

We are making an all-linen rug in a plain weave from very heavy yarn and also a rug in the same construction from yarn that consists of 80% cotton and 20% linen. Over the years we have found that we have no trouble at all in maintaining our width on the all-linen rug, but we find it next to impossible to maintain the woven width of the cotton-and-linen construction.

We think that this difference is caused primarily by the facts that there is no stretch in linen and that there is a certain stiffness that cotton and wool do not have. These characteristics tend to maintain the woven width of the rug after it leaves the loom.

A 9-ft. all-linen rug will shrink about 1 in. in the calender, and a 12-ft. rug will shrink about 1½ or 2 in. A rug made of 80% cotton and 20% linen will shrink about 3 in. on a 9-ft. width and about 4 in. on a 12-ft. width.

Is such shrinkage to be expected? Would a different weave (but one that is not too far from the present one) give us any better width?

We are inclosing a small sample of the all-linen construction and also one of the linen-cotton construction. (9222)

You are correct in your statement that there is little or no stretch in flax fibers. Although the fibers possess considerable flexibility, they cannot be stretched or compressed to anything like the extent to which cotton fibers can because of the twists and convultions normally present in cotton fibers.

In your cotton construction, you very likely gain in length about what you lose in width. One way to stabilize the construction is to size or backsize the rugs with some of the resin emulsions now on the market. It is doubtful, though, that such procedure would be practicable; and it probably would be better to try to reduce the shrinkage in width by modifications on the loom.

If your looms are wide enough to permit you to lay the ends in the warp wider by using a coarser reed or simply

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A *New Safe* Bleaching Agent for Fabrics Containing Acetate Rayon

OUTSTANDING

For bleaching of fabrics where fiber modification of the acetate rayon must be avoided, (i. e. fabrics to be cross dyed, fabrics requiring the inherent solubility and fusability properties of acetate rayon).

EXCELLENT

Mote removal with full white in the bleaching of acetate rayon and cotton goods *without* modification of the acetate rayon.

ATTRACTIVE

A simple one step process for fabrics hard to bleach and sensitive to conventional bleaching procedures.

IDEAL

For fullness of hand and body of bleached goods.

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AGENTS FOR BUFFALO ELECTRO-CHEMICAL COMPANY, INC.

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CRABB *can help you* SOLVE YOUR PROBLEMS

IN PINS and LAGS

When you encounter difficulties in operation due to PINS or LAGS, the Crabb Technical Staff of highly trained men are at your service to help you. A call by a Crabb man creates no obligation on your part.

If you have damaged rollers or cylinders from 3" to 48" to be replaced, call on our new roller or cylinder department.

If you need Pins made to meet special conditions, such as breaking but no bending or vice versa, we can produce them for you by new methods of hardening and tempering steel.

No matter what your problems are remember that CRABB has had years of experience not only in fabrication but in use and application, and can render you a Technical Service that develops just what you need for modern textile production. Write us today. Large stocks of finished or part-fabricated Pins and Lags always on hand.

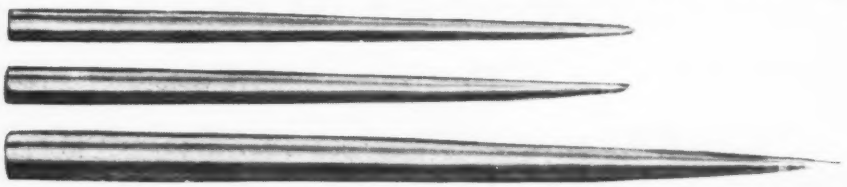
A User Writes —

"We further wish to thank you for your cooperation in working this problem out with us and realize that a lot of time was spent in the development work."

Serving the Textile Industry since 1870

WILLIAM CRABB & CO.

301 3rd Ave..... NEWARK, N. J.



by adding more warp ends, the rug would be woven wide enough to allow for shrinkage. You probably will not be able to obtain the width you desire without making such an allowance, since a construction woven with yarn having 80% of cotton fibers will always shrink to a certain extent. Such shrinkage is normal, and the easiest way to control the width of goods is to allow for this shrinkage.

If you are weaving the rugs at the maximum width of the looms and cannot widen the warp in the loom, some method for recovering the shrinkage might be of help. One such method would be to run the woven rug over a perforated steam roll, through a tenter, and then through a dryer.

It is possible to control shrinkage in some fabrics, such as sateen, by changing the weave; but this method would be entirely unsatisfactory for a rug construction.

Old-Model Spooler Can Use Traveler Bumper

Technical Editor:

In the Kinks and Short-Cuts department of the September, 1947, issue, you listed a device for use on a Barber-Colman spooler to eliminate retiming the traveler.

This timing device apparently was for use on the latest model Barber-Colman spooler. Would it be practicable also for the earlier models, such as the Model A, made in 1928? (9221)

The timing device illustrated in the kink was for the Type C Barber-Colman automatic spooler. As pointed out in the kink, the bumper is fastened to the bottom of the rear-wheel guard. There is no rear-wheel guard on a Type A spooler. Therefore, there is no place to fasten the bumper.

However, a guard can be bought from the Barber-Colman company and installed on the traveler of the Type A spooler. The timing device could then be fastened to the guard as it is on a Type C spooler. The guard would also be valuable from a safety standpoint. If the timing bumper were installed in this manner, it might be necessary to experiment a little to get the correct amount of "hump" in the bumper.

Spinning Organization For Low-Grade Stock

Technical Editor:

We are interested in working out the proper organization of cotton-spinning equipment for processing a mix of stock composed of low-grade cotton, comber

THE COLOR THAT INTERESTS YOU MOST . . .

the GREENBACK

AND

Tailored Color

Your aim is profit . . . our aim is profit. Our aims are mutual.

Florence yarns plus Tailored Color assure you the greatest opportunity for profit—and more of your favorite color—the "Greenback"!

Laboratory and scientific control, accurate, positive color matching to the fastness and shade you specify, is what you pay for at Florence.

In the complete analysis, we believe, this is the surest combination for our *mutual profit*.

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FOR TAILORED COLOR WRITE

FLORENCE THREAD CO., INC.

RIVERSIDE • NEW JERSEY

Package Dyers and Processors of Cotton, Wool, Synthetic and Blended Yarns

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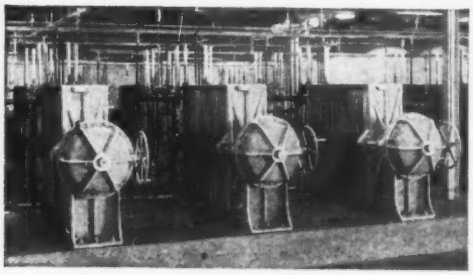
May Be Your Answer to



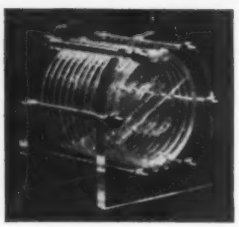
One of several large batteries of Dialysers now being used in viscose rayon plants for the recovery of caustic soda.

PROFIT *from* WASTE

Dialysis is now being used profitably in many fields for the:

- **RECOVERY OF ALKALIS**
- **REMOVAL OF ACIDS AND OTHER NON-WANTED MATERIALS**
- **PURIFICATION OF SOLUTIONS**
- **MANUFACTURE OF BY-PRODUCTS**

You may be throwing away material that can be turned to your profit through recovery or reuse as a salable by-product or you may wish to remove or purify your product.



(Laboratory Model)
Made of Lucite

The Laboratory Model Webcell Continuous Dialyser is currently being employed in the Research Laboratories of several chemical, food product, biological and pharmaceutical companies in this country and abroad. For those desiring to carry on experimental work in dialysis the Laboratory unit offers the opportunity to study the problem closely.

We suggest that you give consideration to this process as a means of greater efficiency and economy in your plant. Our experience with production equipment has given us valuable information which may be of interest to you toward the solution of your problems.

BROSITES MACHINE COMPANY INC.
50 CHURCH STREET (Cable Address—BROMACH) NEW YORK 7, N. Y.
Telephone—COrtlandt 7-1188

noils, and card strips. We noticed on page 53 of the 1946-1947 *Pre-Filed Textile Catalogs and Textile World Yearbook* a data sheet on running staple rayon on the cotton system. This data sheet seems to be concise and complete. A similar sheet containing data to suit our conditions seems to be just the thing we need.

We are particularly interested in making 2s to 6s yarn from stock ranging from ¾ to 1¼ in. in staple length. (9219)

Mill practices in spinning cotton yarn are, of course, anything but uniform. Good yarn can be made from any number of organizations within comparatively wide ranges. The organization range given here can be used for making acceptable yarn from the staple lengths and stock mix you specified. However, variations of this range would work equally well or perhaps better under certain mill conditions.

Weights

Picker lap	—14 or 16 oz. per yd.
Card sliver	—55 gr. per yd.
Drawing sliver	—55 gr. per yd.
Slubber roving	—45 to 60 hank

Speeds

Picker beaters	—600 to 900 r.p.m.
Card—Cylinder	—165 r.p.m.
Lickerin	—375 to 425 r.p.m.
Flats	—2 in. per min.
Doffer	—9 r.p.m. or faster
Drawing—Front roll	—375 r.p.m. or faster
Slubber spindles	—450 r.p.m. or faster
Spinning spindles	—8,000 r.p.m. or faster

Roll diameters and settings

Picker beaters	—¼ to ⅜ in. from feed roll
Card	
Feed plate to lickerin	—17/1000 in.
Lickerin to cylinder	— 7/1000 in.
Flats to cylinder	—10/1000 in.
Doffer to cylinder	— 7/1000 in.
Drawing-roll diameters	—Use rolls you have available
Drawing-roll settings (center to center)	
First (back) to second	—staple length+9/16 in.
Second to third	—staple length+7/16 in.
Third to fourth (front)	—staple length+5/16 in.
Slubber-roll settings	
First (back) to second	—staple length+12/16 in.
Second to first (front)	—staple length+5/16 in.
Spinning-roll settings	—Fixed

Twist Multipliers

Slubber	—1.20
Spinning—Filling	—3.50
Warp	—4.25.

You will note that picker-lap weight is placed at 14 or 16 oz. per yd. and slubber-roving hank at 0.45 to 0.60. You probably will prefer a 16-oz. lap for a 0.45-hank roving. These weights will yield greater production per hour in the departments where most mills are short—namely, picking, carding, and roving. With the stock mix and yarn numbers specified, there would be no need of running more than one process of roving.

Beater speeds on pickers would probably need to be set at 800 or 900 r.p.m., or even faster if the pickers have only two beaters. The mix specified will need considerable beating and blending in order to spin satisfactorily. It will be well worth while to keep a close check on your blending to make certain that the proportions of raw

Yes—it's the Automatic Brushing Attachment on Leighton Knitting Machines that puts that sales-luring softness and beauty on the surface of the fabric, even on the finest and lightest of single stitch fabrics, without injury to the inside appearance of the stitch. Leighton Machines are custom built to rigid specifications for garments from infants to adult sizes.

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ESTABLISHED—1873

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FIBRE COVERED
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Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

LOWELL SHUTTLE COMPANY

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cotton, noils, and strips are maintained. Spinnability of the mix will come primarily from the raw-cotton, although there are mills running 100% noils or strips. It is very likely that you will find a definite limit to the percentage of noils and strips you will be able to spin economically. A slight increase over this "critical" percentage will be quickly reflected in increased ends down at the spinning frame.

The speeds of the card doffer, drawing front roll, slubber spindles, and spinning spindles must be determined by your demand for production. In general, the speeds given in the rayon organization you mentioned can be stepped up 25 to 50%. Better-running work and less waste undoubtedly would result from maintaining approximately the speeds specified in the rayon organization; but unless the product sells at a premium for quality, it is much more economical to sacrifice some running quality for production.

Ultra-Long-Draft Machine Did Not Process Wool

Technical Editor:

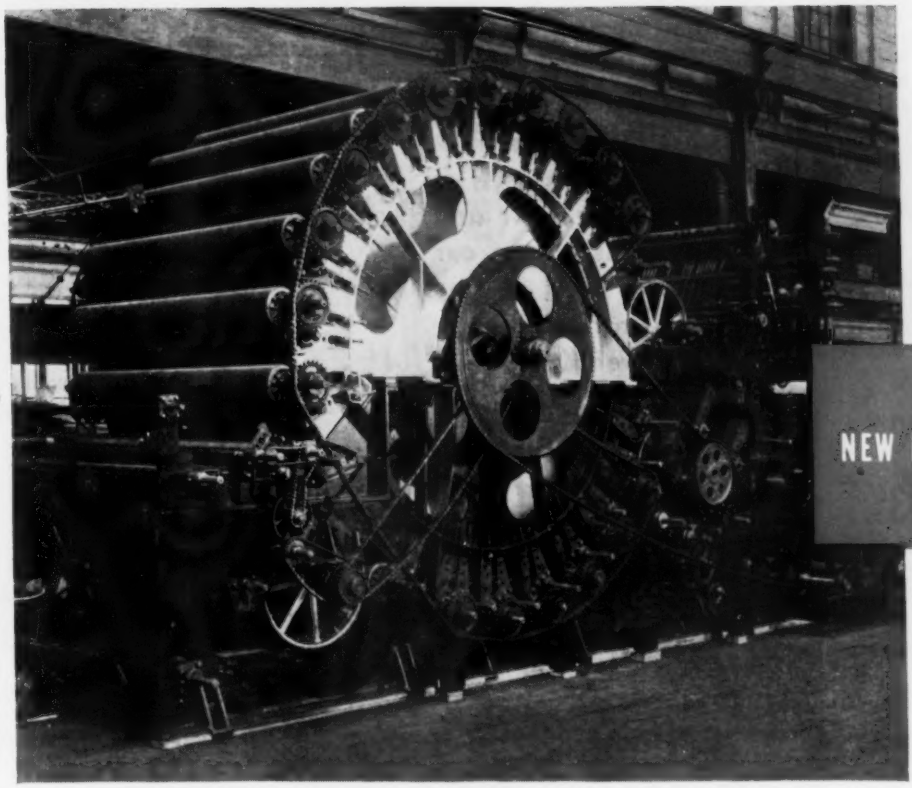
In the June issue, page 108, you had an article entitled Long Draft Must Retain Fiber Control, by Seth Carter. We were particularly interested in the experimental machinery on which a total draft of 300 was obtained. We should like to know if this experimental drafting system will be adaptable to processing Argentine wool as well as cotton. (9217)

The ultra-long-draft system described in the article on long-draft spinning in the June issue of TEXTILE WORLD was manufactured in Germany before the start of World War II by the Hartman Co. At that time, this company also had a selling agent in New York, N. Y.

No information is available at present concerning the status of either the Hartman Co. or its New York agent.

So far as is generally known, there is no machinery of this type in operation in the United States. American machine builders make a type similar to this German type for use on cotton. This machinery consists of a plain roll-draft unit in combination with a double-apron drafting unit, but total drafts in actual use do not equal 300 as claimed for the Hartman units.

The Hartman-type system was used in experimental installations in Europe prior to the war on coarse and medium counts of cotton yarn. No known installations were operated on woolen or worsted yarns. An improved modified type used a large wound package similar to a wool top. This package was placed in a creel and used instead of a



New Single Cylinder
Woolen Card Developed by

NEW ENGLAND MACHINE WORKS

Features Aluminum Extrusions
and Tubing

Advanced Design ALWAYS INCLUDES *Aluminum*

In this new woolen card developed by the New England Machine Works, Waterbury, Connecticut, lightweight, non-rusting aluminum tubing and extrusions play important parts.

Worker rolls, previously made of cast iron, are now made of heat-treated, high-strength Reynolds Aluminum tubing. Their true straightness and roundness reduces machining time and costs. Light weight contributes to power savings—makes for faster, easier handling in the cleaning and replacement of the rolls.

Ribbed, hollow aluminum extrusions are used for guide and pressure rolls—taking full advantage of the versatile aluminum extrusion process. Tool costs of extrusions are low. Special aluminum sections can be fabricated efficiently to meet your particular design requirements.

Have you considered where and how aluminum can improve the operation and service life of your product? A Reynolds textile engineer will be glad to work with you in adapting this versatile metal to your specific requirements. Write our nearest field service office, or Industrial Machinery Division, Reynolds Metals Company, 310 Hanna Building, Cleveland 15, Ohio.

REYNOLDS METALS COMPANY, ALUMINUM DIVISION, LOUISVILLE, KY.

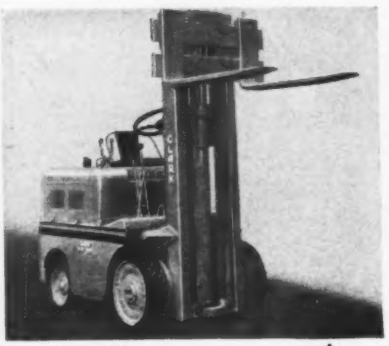
REYNOLDS
***Lifetime* ALUMINUM**

MATERIAL HANDLING *News*

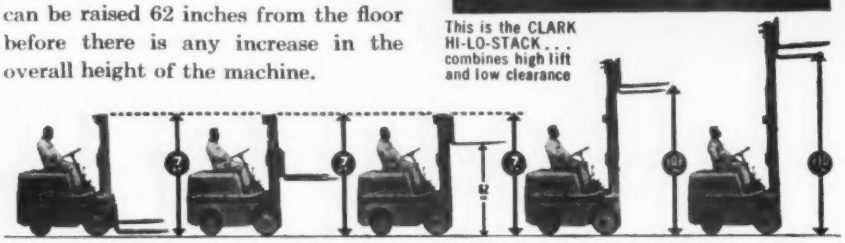
With this high-lift, low-clearance attachment, a Clark fork truck can take material through a freight car door and tier loads to the car roof, as well as tier loads rafter-high in the warehouse.

TIERING HEIGHT 130"
COLLAPSED HEIGHT 83"
FREE LIFT 62"

That "free lift 62 inches" is the vital specification of HI-LO-STACK, Clark's new high-lift, low-clearance attachment. It means that the forks can be raised 62 inches from the floor before there is any increase in the overall height of the machine.



This is the CLARK HI-LO-STACK . . . combines high lift and low clearance



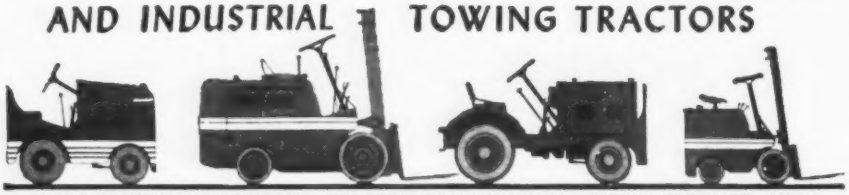
83 INCHES OVERALL HEIGHT, FORKS LOWERED | NO CHANGE IN OVERALL HEIGHT WITH "FREE-LIFT" OF FORKS UP TO 62 INCHES | UP-UP-TO 130 INCHES—22 INCHES ADDITIONAL LIFT FOR EXTRA HIGH TIERING

You recognize instantly the practical benefits of the HI-LO-STACK—it enables a fork truck to take a load through the 7-foot door of a box-car and tier loads to the roof of the car, or to tier unit loads to the rafters in the warehouse. Heretofore, with conventional lift mechanisms, the increasing height of the vehicle made it impossible for the same machine to perform all these operations; making it necessary, in many handling operations, to use two machines—one for loading and unloading cars and another for high tiering in the warehouse.

Also HI-LO-STACK is an exceedingly simple mechanism. It has only one lift cylinder, and a single set of uprights with slide members inside. Lifting is accomplished with unusually low hydraulic pressure, which minimizes possibility of leakage.

It adds up that HI-LO-STACK is a typical Clark development—sturdily built, simple as can be, a thoroughly dependable unit; a good example of the sound engineering and incomparably rich knowledge of handling operations for which Industry looks to Clark. Write for particulars.

CLARK GAS AND ELECTRIC POWERED FORK TRUCKS AND INDUSTRIAL TOWING TRACTORS



CLARK EQUIPMENT COMPANY, TRUCTRACTOR DIVISION, BATTLE CREEK 27, MICH.
REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

drawing can behind the spinning frame.

It is doubtful that the double-apron type of drafting unit would be effective in controlling the longer wool fibers. American machine builders have done a great amount of experimental work in adapting the cotton system to woolen and worsted-yarn manufacture, and they have developed practical machine designs and methods that assure the highest maximum draft consistent with high-quality yarn.

Looper Points per Inch Are Hard to Figure

Technical Editor:

We are interested in obtaining data on looping, particularly in regard to:

1. The correct looping points for specific knit goods.

2. The influence of yarn count on the proper looping points.

3. Methods for determining these two factors. (9209)

1. The following table suggests the correct point looper for full-fashioned work:

Gage	Point
39	24
42	26
45	28
48	30
51	32
54	34
57	36
60	36
66	38

2. While the table lists the approximate correct point looper to use with a particular-gage machine, the size or denier of the yarn can change the conditions so that another point looper may be needed. For example, if one end of 30-den. and one end of 60-den. yarn are being used in the toe of a stocking being knitted on a 45-gage machine, a 28-point looper should be satisfactory. However, if the 30-den. yarn is taken off and two ends of 60-den. yarn are used, a 26-point looper would be better.

Finer yarns, of course, produce finer fabrics. It is a good practice to stay on the finer side of the point range for looping in order to avoid stretching the stitches or fabric.

3. It is hardly possible to determine the exact relationship between the number of needles per inch in a full-fashioned knitting machine and the points per inch in the looper. If a knitter has had a good deal of experience with loopers and looping, it is usually fairly easy to determine the proper point looper to use after several stockings have been looped.

Satincast

THE "NEW LOOK" IN

COOPER STAINLESS STEEL FITTINGS

Satincast, smooth as satin itself . . . is a newly developed finish by COOPER ALLOY which is ***Standard*** on all COOPER Stainless Steel Fittings. ***Satincast*** finish is also available on Special Castings of moderate size.

* T.M. REG. PENDING

LUSTRACAST by COOPER

This famous COOPER ALLOY electrolytic polish for fittings and castings brings out the natural brilliant luster of Stainless Steel as well as greatly increasing its resistance to contamination and corrosion. Lustracast finish is available at a slight extra cost.

Specialists in Corrosion Resisting Stainless Steel

THE COOPER ALLOY FOUNDRY CO.

HILLSIDE, NEW JERSEY

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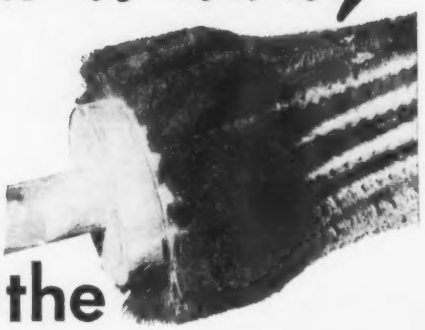
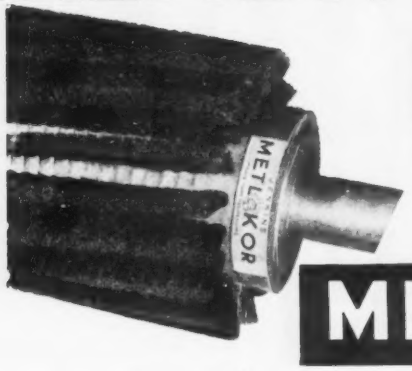


Just

RENEW the BRISTLE



—if it's a

METL-KOR

(TRADE MARK Reg. Pending)

When the bristle on your "Metlkor" brush wears down, there's no need to buy a new brush. Return the old brush to us for rebristling.

Why pay for an entirely new brush, when you need only new bristle?

By our patented method worn bristle is stripped from the brush, the metal spindle or core is cleaned, and new bristle is put on the core.

The brush is as good as new

This sensible economy feature of "Metlkor" brushes appeals to woolen, cotton, and rayon mills and textile printers. "Metlkors" are used by cotton and rayon weavers for brushing machines and shears, by woolen manufacturers for shears, presses, brushing machines, cards, etc., by printers for furnishing color and for blanket washing.

The Cores

of "Metlkor" brushes are made of cold drawn steel or aluminum. They cannot sag or get out of alignment.

Bristle

Nylon or China is put on "Metlkor" brushes by our patented process that makes them moisture proof, easy to keep clean, and good for long efficient use.

Jenkins makes the following brushes:

- Furnisher
- Flock
- Raising
- Laying
- Shearing
- Brushing
- Pressing
- Blanket Washing
- Singeing

etc.

It will pay you, too, to use these economical brushes.

Write today for catalog showing the complete line of Jenkins, brushes for the textile industry.

M. W. JENKINS' SONS, INC.

Manufacturers of Industrial Brushes Since 1877

CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

Cotton Classification

(Continued from page 119)

is divided by the number of bales in a mix. The quotient is the total number of mixes on hand. The number of bales under each classification is divided by the total number of mixes, the result being the number of bales of each classification in the mix. Where fractions of a bale occur, one-half or larger portions of a bale are considered whole bales. In some cases it may be advisable to split bales on the opening-room floor.

To the right of the cotton inventory is a simplified calculation of the bales per mix based upon the bales shown in the cotton inventory. This calculation shows the number of bales of each type which should be used in all successive mixes of this stock. Since the right type of bales are on hand in the quantity required for these successive mixes, there is no excuse for a lack of uniformity in the mixes if the mill also follows up its opening with a positive method of bale identification.

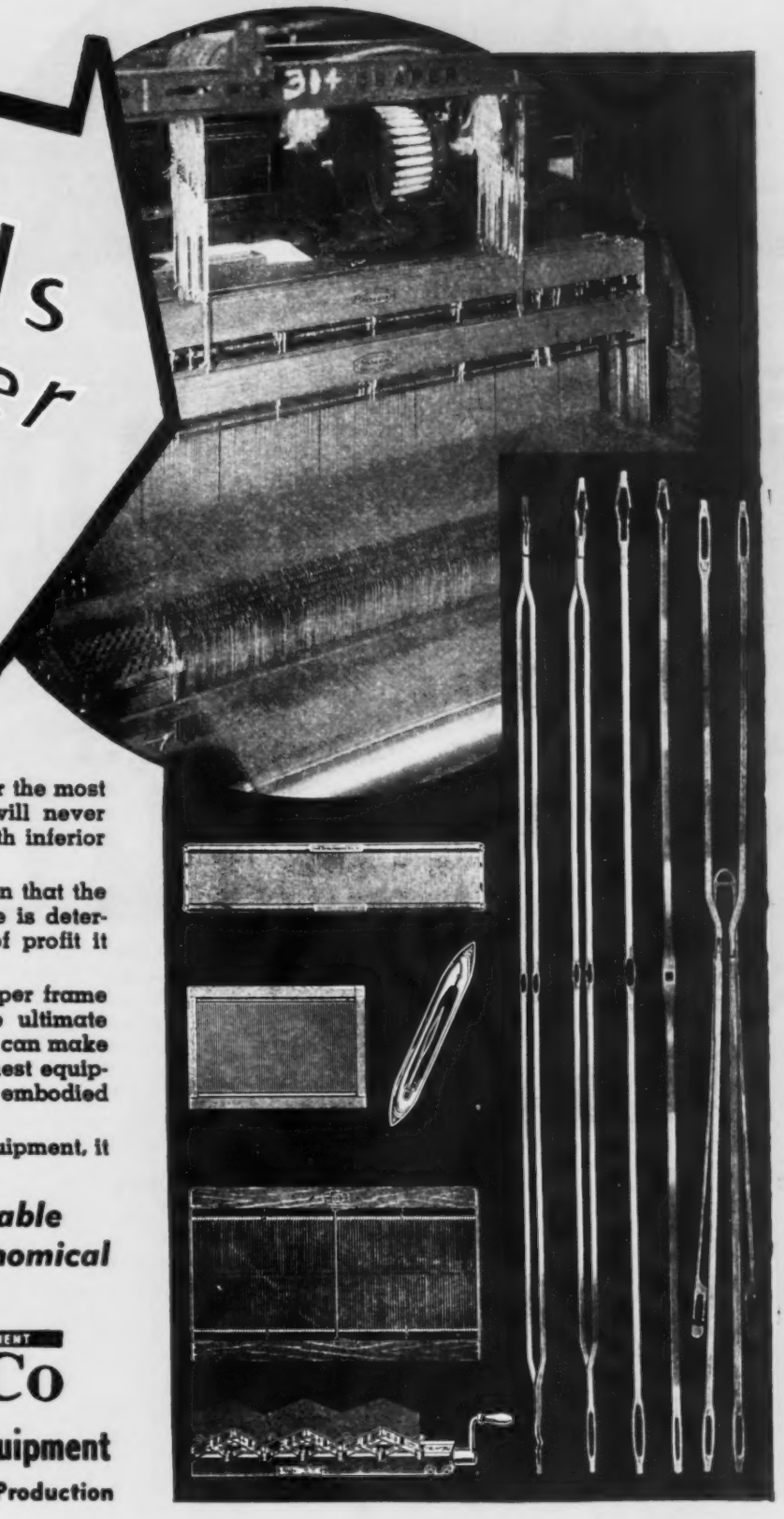
BALE IDENTIFICATION. A quick and simple method of marking each bale after classing provides two checks upon the accuracy of successive blends: one by the warehouse, one by the overseer of carding or his assistants.

In one system, the color of the tag indicates the staple length. For example, green designates 1 1/32 in.; pink, 1 1/16 in.; blue, 1 3/32 in. Letters are used to indicate the color classification of the bale: A for bright; B for white; C for dead-white; and D for gray-cast. Of course, the official grade numbers are used to designate the content of leaf and other impurities, beginning with No. 1 for Middling Fair and proceeding to No. 9 for Good Ordinary cotton.

As an example of the above system, a green tag marked "4A" indicates 1 1/32-in. staple. Strict Middling leaf, and bright color. In practical mill operation, the length of staple is considered the most important measurable quality of the cotton; so staple length is generally given the most obvious means of identification, color.

The colored tags are attached to the bales after classing. When the bales are opened, the tags are removed along with the compress tag and the bale-mark tag and are placed in a holder over the bale. Thus complete information on the bale is readily obtainable. If irregularities appear in the bale, they can be

A Loom Is No Better Than Its Harness



WHETHER your looms are old or the most modern, their ultimate capacity will never be achieved if you equip them with inferior harness equipment.

It is at this vital stage of production that the quality and quantity of the weave is determined—and with it the amount of profit it will net you.

Do not try to save a few pennies per frame on the first cost, but look at the ultimate result in the amount of money you can make over a period of time with real honest equipment built for durability and only embodied in Ste-Hed-Co Loom Harness.

When in need of loom harness equipment, it will pay you to remember that—

There is None so Durable
So Efficient • So Economical
as

QUALITY LOOM HARNESS EQUIPMENT

Ste-Hed-Co

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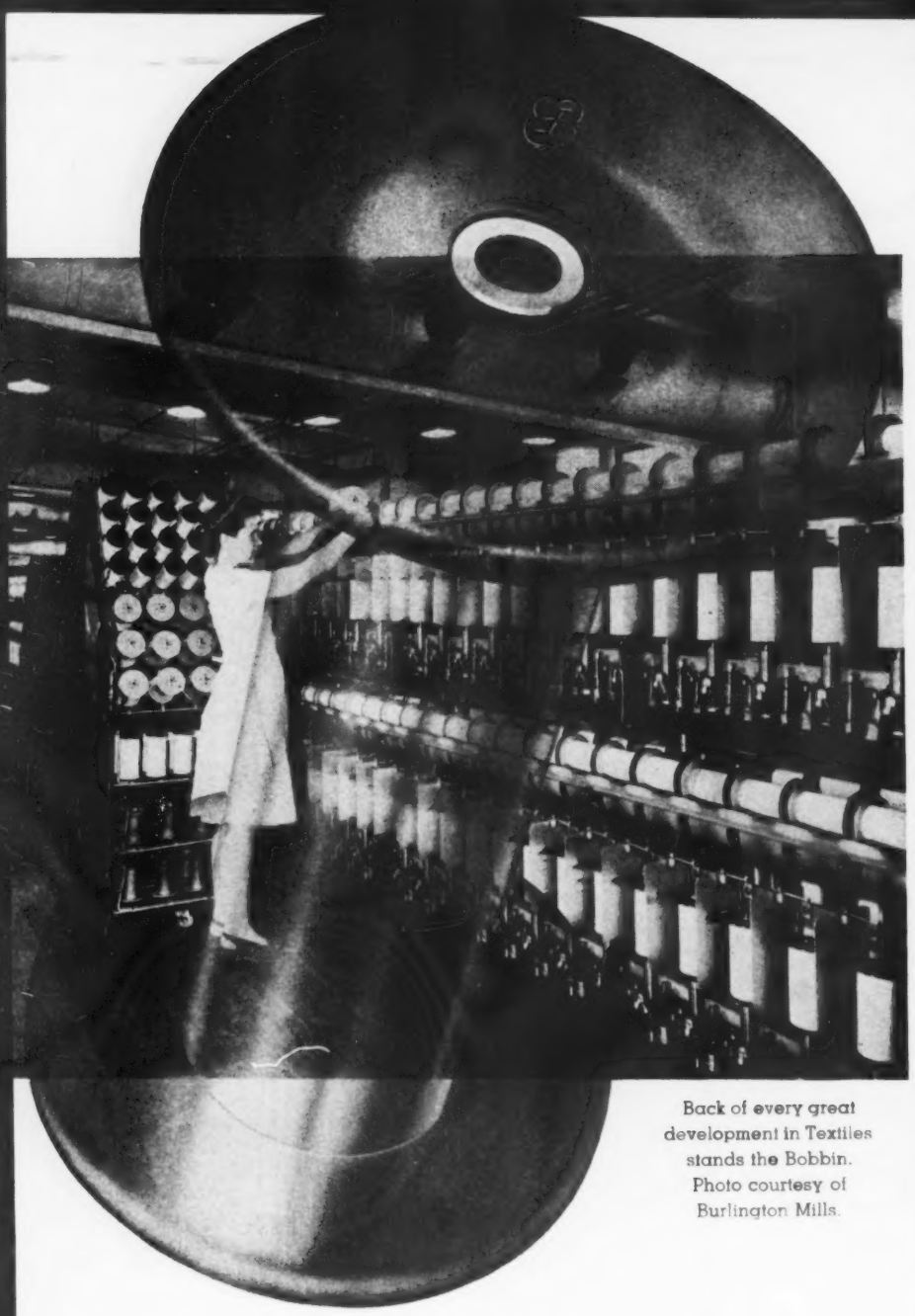

Back of every great development in Textiles stands the Bobbin. Photo courtesy of Burlington Mills.

Rayon throwing in America's great mills calls for Bobbins that are carefully balanced, amazingly precise.

To meet these requirements, Cloverleaf-Freeland is developing a Bobbin so far superior to ordinary Bobbins and built to such high standards of precision that it will remain perfectly balanced through many years of high-speed operation.

This is just one example of the designing skill of Cloverleaf-Freeland—skill that builds great Bobbins.

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CLOVERLEAF-Freeland BOBBINS

traced to shipper and compress; and a claim can be made for adjustment.

In such a manner, the modern mill uses precise bale identification and careful classing followed up by adequate records and inventory; and to the extent that it uses such systems of cotton control, it improves the long-range uniformity of its mixes. There are mills which have never made more than a superficial examination of the individual bale qualities of the lots as delivered, and those mills would be shocked by the results of a complete analysis and record of the individual bales received into their warehouses. Moreover, they miss the important production advantage which long-range uniformity begets. However important the results of mechanical measurements of cotton turn out, the mills already have the necessary tools for a considerably better job of cotton mixing than is generally done. These tools derive from the skill of the cotton classer who, given coordinated and systematized procedures, can do more toward improving the production and quality of yarn than any other individual in the organization.

World Textile Output

(*Continued from page 108*)

exportation on the ground that the home market needed the production. That prohibition was removed early in 1947.

An estimated 20,000 were out of jobs in Sao Paulo's textile industry by about mid-year, but many were re-absorbed into other industries. Textile prices remained high; and, when the government limited retail profits, some retailers and wholesalers cancelled orders. Exports have not been sensational since the ban was lifted, but agreements with five South American countries call for 113,300,000 yd. of textile exports in 1947, 135,300,000 in 1948, and 157,300,000 thereafter; and presumably there will be other orders.

VENEZUELA

By Dennis Landry

There are no late figures available for textile production in Venezuela, but government officials indicate it is low. There are 19 plants producing low-grade textiles which furnish less than 5% of the country's needs. One of the largest is in Maracay, formerly owned by dictator Juan Gomez, which is now closed pending reorganization. Approximately 1,000 persons are normally employed there. Other plants employ less than 100 persons, operating principally on low-grade bag fabrics.

The Industrial & Business Association of Caracas predicts a good future for the industry, as soon as modern machinery, skilled technicians, and proper mills are available. They said Venezuela welcomes outside capital, and the association's last report shows that, even at present, textile in-

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That explains why so many of America's leading mills, converters, finishers and dyers have turned to Colgate-Palmolive-Peet for high-quality wetting, fulling, scouring and dispersing agents.

Remember, there is a C.P.P. soap or synthetic detergent for every type of fabric—for every processing problem. Ask your local Colgate-Palmolive-Peet representative for details. Or, write today to Industrial Department, Colgate-Palmolive-Peet Company.

COLGATE FORMULA 25
For low-temperature washing ordinarily requiring olive oil soaps. Sold in eastern states only.

COLGATE WHITE SOAP FLAKES
High-grade thin white flakes. Not milled or polished. 90% anhydrous soap.

ARCTIC CRYSTAL FLAKES
Made from pure tallow, guaranteed to contain 88% or more soap. Titer approx. 42°C.

ARCTIC SYNTEX A, T, AND M
Synthetic detergents and wetting agents. Unsurpassed for many processing operations.

COLGATE FORMULA 10
92% oleic acid soda soap in flake form for silk degumming, wool scouring, all textile processing.

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Yarns we process include cotton, rayon, worsted, nylon, blend and novelty yarns.

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vestments are annually returning 50% of the capital investment.

Asia

CHINA

By John W. Powell

Cotton textiles in China, compared to all other industries, have the best prospects and are the only group to have functioned with any up-surge and regularity after VJ Day. Now it is being threatened with the revival of its competitor—Japanese textiles.

Before the Sino-Japanese war, there were 5,500,000 spindles, including foreign owned, producing 2,500,000 bales (420 lb. each) of yarn annually. During the war, 100,000 spindles were rescued from the Japs and moved into the interior. After VJ Day, the Chinese government took over all Japanese and puppet spindles—a total of 4,500,000. These were handed over to the government-controlled China Textile Industries, Inc., a government monopoly.

China's textile factories are concentrated in Kiangsu province—Shanghai, Wusih, and Nantung—and also in Shantung (Tsingtao) and Hopei (Tientsin). Here is a table which gives the current location of plants and number of spindles:

	Spindles	Percent	Looms	Percent.
Shanghai	2,158,624	48.3	25,918	38.9
Kiangsu	598,784	13.3	7,218	10.8
Hopei	452,548	10.0	10,660	16.0
Shantung	387,132	8.7	8,066	12.1
Manchuria	396,080	8.9	8,692	13.0
Szechuen	157,740	3.5	1,620	2.4
Other Provinces	320,524	7.2	4,432	6.7

In 1946, total output of cotton yarn was 1,300,000 bales (400 lb.). Of these, 417,593 bales were produced by the government, and 900,000 by private plants. In the first year after VJ Day, the government controlled about 20% of output. This year the government controls 40%.

Shortage of domestic raw cotton and lack of foreign exchange for importations of foreign cotton hamper development. The estimated output of cotton cloth per annum is currently set at about 2,000,000,000 yd. But because the number of looms operating in China is not known—although the total number is approximated—it is impossible to check the production figure.

There are 66,000 wool spindles in China, each producing about 0.15 lb. in 10 hr. However, the number of spindles in operation and the length of working day (shifts) is not known. Government-owned mills for the first three-quarters of 1947 produced 1,893,149 lb. of wool yarn and 1,482,404 yd. of wool cloth.

INDIA

By J. K. Van Denburg, Jr.

India's textile industry spent 1947 in lead-footed time-marking—losing ground in a bitter struggle with increasing costs, difficult price controls, widespread labor troubles, and sharply depreciating outworn equipment.

Her plans for expansion of cotton production to an annual capacity of 7,200,000,000 yd. by 1951 are far from getting underway. Licenses have been issued for the new mills, but Indian purchasing missions have learned that the earliest they can expect machinery is 1951. Mean-

CALCO *dyelines*

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NEW WOOL DYES WITH IMPROVED FASTNESS

The increasing demand for shades of better fastness to light and washing on certain types of wool materials has resulted in the development of a process for the application of the complete line of Calco Indigoid and Anthraquinone Vat Dyes to these materials. Vat-dyed shades can be produced which exhibit extraordinary fastness to light, even in pale shades, as well as excellent fastness to washing, perspiration, salt water, cross dyeing, fulling, etc. Such shades are of particular interest to manufacturers of automotive upholstery fabrics, knitting yarns, carpet yarns and blankets. Lack of brightness had been a handicap in some cases; and where acid, chrome and metallized wool dyes were used, they provided inadequate light and wash fastness.

Desirable Physical Properties Retained

The practicality of this process of applying vat dyes to wool has been proved during the routine dyeing of thousands of pounds of material. The desirable physical characteristics of the wool are well preserved. For example, wool slubbing dyed by this process has a softer, more lofty feel, better spinning qualities, and more tensile strength than the same material which has been dyed by the usual methods.

At the present time vat dyes can be applied to wool in the form of stock slubbing, tops and yarn. Piece goods cannot be dyed due to lack of suitable equipment for the mechanical handling of the cloth without tension and in the open width.

The cost of vat-dyeing of wool is higher than that of ordinary wool dyeing procedures, but the advantages more than offset the extra costs.

Practically all Calco vat dyes can be applied to wool by various recommended methods, but those especially adaptable because they produce shades of better than average fastness to light include:

*Calcoloid† Yellow GCD Paste
*Calcosol† Yellow G Double Paste
*Calcoloid Golden Orange GD Paste
*Calcoloid Golden Orange RRTD Paste
Calcoloid Flaming Orange 2R Paste
*Calcoloid Orange RD Paste
Calcosol Scarlet B 100% Powder
*Calcoloid Pink FFD Paste
Calcosol Pink FB Double Powder
*Calcosol Red BN Double Paste
Calcoloid Violet 6RD Paste
*Calcoloid Blue BLD Double Paste
*Calcosol Blue GCD Double Paste
Calcosol Blue 2BD Powder
*Calcosol Blue 3G Paste
Calcosol Navy Blue Paste
*Calcosol Jade Green N Double Paste
Calcosol Olive Green BN Double Paste
*Calcosol Brown R Paste
Calcosol Brown RRD Paste
*Calcosol Copper Brown Paste
*Calcosol Gray 2G Double Paste
*Calcoloid Black BBD Double Paste

*Powder type also available †Trade-mark

The process for applying vat dyes to wool is simple and easy to carry out, the dyeing time is short, and steam consumption is low. Either the pigment method or the reduced method can be used. A protective agent for the wool is usually employed, and for this purpose the ligno-sulfonates, by-products of the paper industry, are suitable. Caustic soda or trisodium phosphate is used as the alkali.

Typical of commercial procedure is the dyeing of wool slubbing in top form which is carried out on various forms of top dyeing machines or on perforated spools in machines of the Abbot type.

Calco has worked out procedures and formulae to be followed for achieving best results in dyeing various types of wools. These are applicable to stock and package dyeing, with only the slight change in procedure required by the specific types of machines. Full information is available on request.

A New Cotton Dye

CALCOLOID COPPER BROWN DOUBLE POWDER

Calco has now developed a dispersible powder, double strength, in the new Copper Brown shade which it introduced some months ago as a paste. This type is especially desirable for use in mills preferring a powder type to prevent drying out in the drug room. It also facilitates the weighing out of small quantities.

Calcoloid Copper Brown Double Powder is recommended for package dyeing either by the reduced method or pigment method when dyed at 140° F. or slightly lower. It possesses excellent working properties on cotton, dyes well on yarn, raw stock, piece goods and package machine. Light shades will stand 40 hours' Fadeometer exposure. It also gives good fastness to light, washing and bleaching. It imparts very good light fastness to wool tops and slubbing, and it is suitable as a shading element for automotive shades.

FOR THE TEXTILE BOOKSHELF

Studies of Wool Dyeing (Calco Technical Bulletin No. 794) explains in detail the Calcomet process and discusses various methods for applying chrome colors. The Calcomet method has many advantages over other methods in producing better fiber levelness.

"They've tried everything—but I think that trick'll get 'em a new car hands down!"

TEXTILE PROCESSORS, using GAS as a production-line fuel for drying, singeing, curing, and other heat-processing operations, report outstanding successes in cost reduction, increased capacity, improved fabrics. These statements, from various textile manufacturers and finishers, emphasize the importance of GAS and modern Gas Equipment in textile productioneering.

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The production and finishing of piece goods was increased more than 100% and the record maintained over two-year test period with GAS and Modern Gas Equipment.—New Jersey Dyer and Finisher

IMPROVED TEXTILES

Processing with GAS improves the fabric because the rapid drying in slashers prevents flattening of the yarn; in dyeing the color fastness is assured.—Eastern Mill Executive

CONTROLLED PROCESSING

GAS is so flexible and so readily controlled that simple automatic devices maintain the proper temperature with less than 5° variation for curing ovens and print towers for processing all types of fabrics.—New York State Textile Company

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Increase of 25% in operating speeds on tenter-palmer unit, plus savings in steam and labor costs, amortized the cost of Modern Gas Equipment.—Synthetic Fabric Producer, Virginia

THOROUGH DRYING

GAS acts rapidly and thoroughly, drying at production speeds without weakening the fabric by scorching. The combination of accurately controlled GAS and variable-speed equipment facilitates processing of all weights of cloth.—New Jersey Processor

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while, domestic disruption has dealt a harsh blow.

Cotton-textile production for 1947 is estimated at about 3,800,000,000 yd., but it may finally prove to have been lower. Some industry circles think the decline from the 1946 figure of 4,200,000,000 yd. may be as great at 25%—or 1,000,000,000 yd. But even the conservative estimate means that per-capita production will be only 10 yd., compared with 15 yd. in 1946, and the country's minimum requirements of 25 yd. Hopes are high that some lost ground can be won back in 1948 as a result of a government emergency program which will lower the average count produced by each mill and restrict manufacture to certain standard varieties.

A recent survey of the wool branch shows that it has remained constant at 50,000 woolen spindles and 37,500 worsted spindles, 2,300 power and 500 hand looms. Silk, too, made no gains in 1947; while the three rayon plants mentioned last year are still far from production stage. One, in Travancore, is just starting to receive equipment from Britain.

JAPAN

By A. W. Jessup

Japan's textile industry was still struggling to get on its feet as 1947 ended, but it had little hope of soon becoming the bruiser it once was. [TW, Jan., '48, p.101] Shortages of every kind—some real, some the result of excessive hoarding—slowed down rehabilitation of the remaining fraction of the textile behemoth which ruled the Far East markets before the war. Faster rebuilding of mills, however, would not have raised production. There was more than enough operable equipment to handle available supplies of textile raw materials. Rayon output was low and of poor grade.

Cotton yarn output amounted to 225,200,000 lb. of which about 11% was exported. Cotton cloth totalled just over 670,000,000 sq. yd., with exports amounting to 435,000,000 linear yd.

All cotton production was made from American cotton imports arranged by the Commodity Credit Corp. The first, or CCC-1, contract covered 905,353 bales for 1946 and 1947. Deliveries on the CCC-2 contract for 300,000 bales recently began arriving at Japanese ports.

Exports are now being transferred to semi-private trade channels. Cotton imports are on the same basis. Shippers are allowed to come to Japan under the North American Cotton Corp. to deal with the mills. SCAP must approve any contracts which will be signed with the Japanese government's Board of Trade (Boeki Cho), not with the mills.

Most important development during 1947, according to Japanese textile men, is the signing of the first contract with India for 140,000 bales. Cheaper Indian cotton is necessary for the fabrication of goods for domestic consumption.

TURKEY

By John R. Pearson

Turkey's textile industry is part state-owned, part privately owned. In the first

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SAVES LABOR! CUTS MAINTENANCE!

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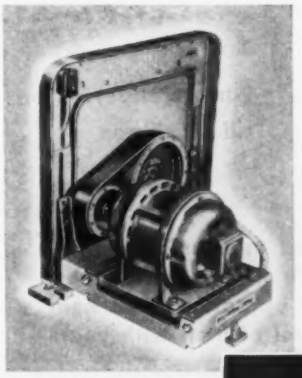
● Labor, material and time-out for maintenance are virtually eliminated. Because of its pivoted design the Rockwood Base automatically maintains proper tension indefinitely with practically no attention. And it pulls with minimum stress on belt and bearings, doubling belt-life and making motor-bearing overhauls unnecessary. Belts track perfectly . . . never slip . . . save 5 to 10% in power.



TOP OF PAGE—Rockwood "floor" type base for spinning and twister frames. Motor 6" above floor.
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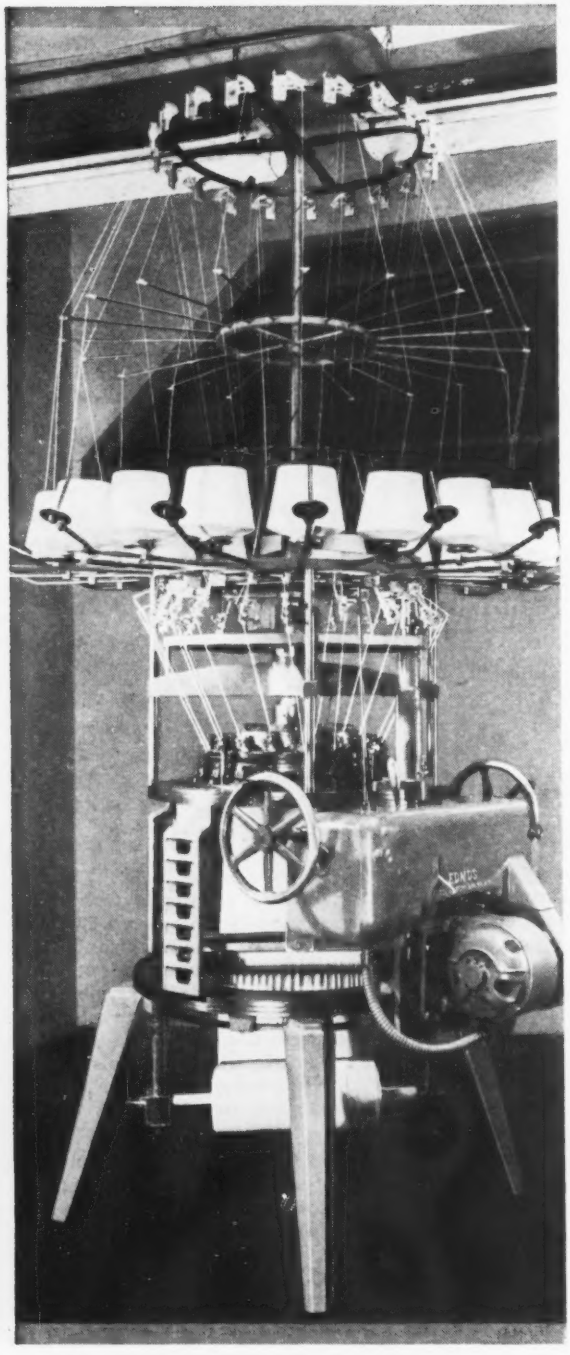
TYPE AM MULTIFEED RIB MACHINES



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nine months of 1947, production of cotton yarn in state plants was 9,987 tons, in private plants 12,014 tons; production of wool yarn in state plants was 2,884 tons, in private plants 2,042 tons. These figures are roughly the same as corresponding figures for the first nine months of 1946; future forecasts are about the same.

A rayon plant was established at Gemlik in 1938 with planned annual production of 287 tons on a basis of 120 den. Actual production in 1945 was 239 tons.

Turkey exports no textiles, must import both yarn and cloth to satisfy her domestic needs. During the summer of 1947, imports of cloth and thread temporarily glutted the market, present imports have therefore been cut below the norm. The government is becoming less willing to grant import licenses as Turkey's dollar supply dwindles.

Europe

UNITED KINGDOM

By Frederick R. Brewster

Rayon continued to lead the field in the recovery of British textiles from their postwar slump, with yarn production setting new all-time records in September and October and with the estimated total production for the year up 13% over 1946.

Exports of rayon (both of yarn and of fabrics) for the full year are expected to run slightly lower than 1946, due principally to slightly larger allocations of both for domestic consumption in view of the continued shortage of cottons.

Cotton production was only slightly better than 1946, and was still only two-thirds that of the peak wartime figure in 1941. Explanation of this is two-fold: (1) shortage of labor, principally of women operatives, many of whom have not been attracted back into the industry after leaving it during the war for the more pleasant conditions in light-engineering industries; and (2) shortage of fuel. Both factors work to prevent full production in the running mills and the reopening of many of the mills closed during the war under the concentration-scheme. Compared to prewar (1939) figures of 65,500 men and 112,000 women employees in the spinning branch of the industry, the latest (September) 1947 estimates (from the Cotton Board) of the number actually working, 47,250 men and 71,390 women, indicate why a yarn shortage is affecting all the subsequent operations.

Re-equipment with automatic looms of the cotton-weaving section of the industry has continued at a moderate rate—absorbing roughly 50% of total loom production.

In the first ten months of 1947, 11,999 tons of looms were exported, which compares with 12,975 tons for the full year 1946 and 12,497 tons in the full year 1938. Comparable increases were also chalked up in the export of spinning machinery: 32,088 tons going abroad in the first ten months of 1947, as against 30,246 tons in the whole of 1946.

Cotton-cloth exports will show only a small gain in 1947 over 1946, despite the Board of Trade's decision to strip the home market almost bare, even including

FOR LONG SECTIONS IN TEXTILE MACHINERY

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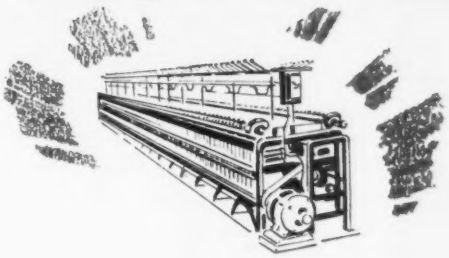

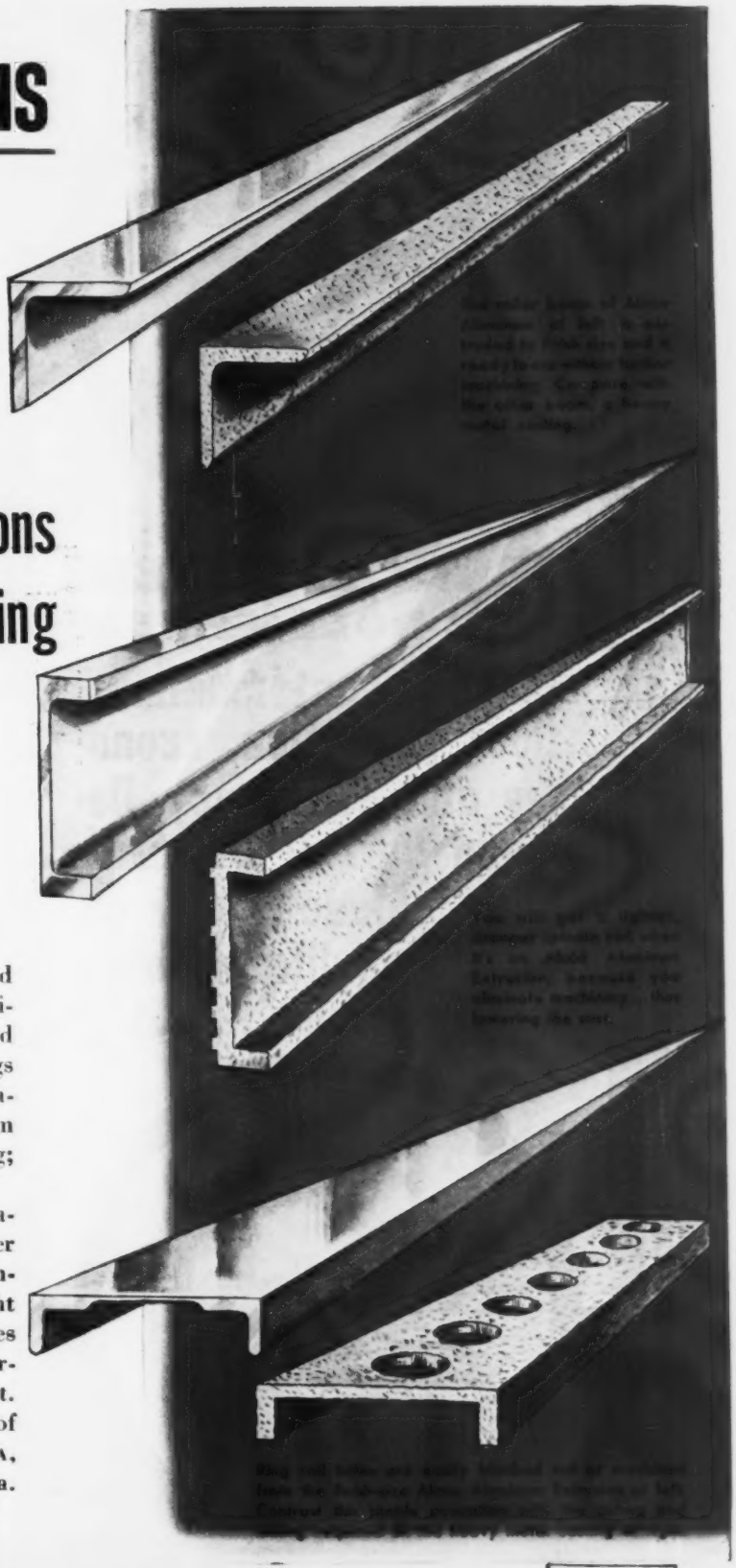

When Alcoa Aluminum Extrusions are used for long sections, you cut down—or eliminate altogether, the machining required when cast metals are used. The savings over heavy castings start *before* installation. Add to this head start: freedom from rust and deterioration—without painting; strength, and light weight.

Spinning, twisting and doubling machinery operate more smoothly at higher speeds with fewer breakdowns when constructed of vibration-damping, lightweight Alcoa Aluminum. These Alcoa advantages reflect themselves in the price and performance of modern textile equipment. Make sure your machine builder knows of them. ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Penna. Sales offices in principal cities.

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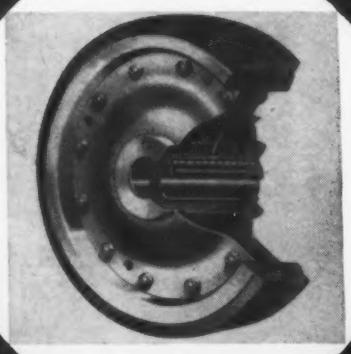

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many of the utility-grade clothing items. So urgent is the need to increase output of finished goods by 10% immediately and 20% ultimately that the government recently appealed, with the consent of trade union leaders, for the re-introduction of longer hours (at overtime rates, of course).

Wool production continued relatively unchanged from 1946, and exports remained at approximately one-third of total production.

FRANCE

By Michael Marsh

Productionwise, the French textile industry in 1947 continued the upward march begun at the end of the war. Output increased on the average about 20% over 1946, with all branches showing a considerable gain.

The gain was less marked in the wool branch than in other sectors, and output of wool yarn and cloth remained substantially below prewar, even though considerably higher than in 1946. Supplies of raw wool received were below receipts during 1946 in contrast to cotton, where receipts have been running about the same as 1946.

In high-quality goods, the French are turning out woolens which in color, softness, and drapeability are good. They also feel heartened by a deal made during the fall with the British Board of Trade to permit importation of $12,000,000 of French suitings and dress goods into England.

Cotton yarn and cloth production during the last year has risen largely above prewar, as has also output of rayon filament and staple fiber. Only silk remains in the doldrums, and there is not much optimism that it will ever recover its once mighty place among French industries. Total rayon and staple fiber output remain below 60,000 tons, however, despite an estimated plant capacity as high as 115,000 tons annually.

Exports of cotton and wool yarn and cloth have soared during 1947 compared to 1946. Cotton cloth exports, totalling nearly 40,000 tons, represent a substantial figure, four times that of the previous year. But six-sevenths of these cottons go to the French colonies. Less than a third of the wool yarn and cloth exports, totalling together about 20,000 tons, go to the colonies. The U. S. has offered a new market for several million dollars worth of French rayon yarn during the year. Altogether, during the first nine months of 1947, the U. S. bought $8,500,000 (f.o.b. value) of French yarns and cloth, with the new lower tariff the French hope to sell to the U. S. considerably more in 1948. This trade is vital to balance cotton and wool imported into France.

GERMANY

By John J. Christie

Germany's textile industry in 1947 operated at about 30% of 1936 production. Policies governing supply of raw materials and disposition of finished goods varied in each of the airtight compartments which comprise the present Reich—the Soviet

PRACTICAL

Weft Straightening

Winsor & Jerauld, specialists in tentering equipment and pioneers of the development of efficient and practical cloth control, offer as a "package" device a weft straightener unit proven by leading finishing plants in its adaptability and reliability.

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The intensity varies, in a manner comparable to the amount of degree of bias to be corrected, causing a group of tiltable rolls motivated by electro-mechanical methods to produce a change in the relative length of the two selvages.

Unit assembly is normally applied at the entering end of the tentering machine and may be adapted as required to conform to space restrictions.

Additional information for specific applications will be gladly forwarded upon request.

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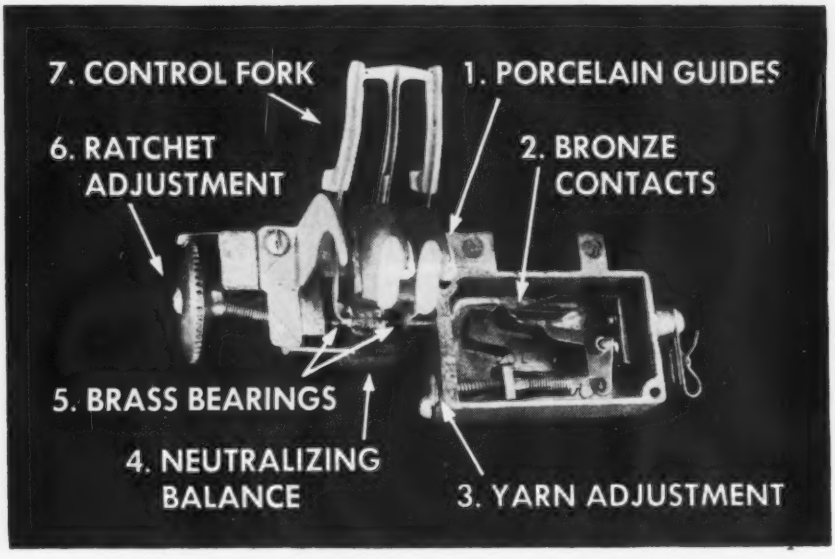

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zone, French zone, and US-British bi-zonal area.

Russia supplies an unknown amount of cotton and wool to the mills in her zone, with part of the finished goods going to the USSR in repayment and the rest for domestic consumption. A considerable amount of processing is done for other countries. Generally, foreign buyers have their choice of paying dollars or other hard currency, or of providing the yarn or raw materials. Probably the most significant effect of reparations has been removal of most of Wolfen Farben's capacity for producing cellulose fiber. This plant was Germany's largest producer.

After futile months of trying to run the textile industry through Allied and German bureaucratic agencies, the US-British bi-zonal authorities recently have made notable progress in restoring private commercial channels for importing and exporting. In the case of cotton imports from the U. S., the Germans are completely on their own. The Bremen and Hamburg cotton exchanges have been authorized to deal direct with the American Cotton Supply Corp. under a special financing arrangement with the Export-Import Bank.

Most emphasis has been placed on stimulating cotton in the bi-zone. Pump priming began in 1946 with 50,000 bales of cotton under a USCC self-liquidating import program. Other cotton shipments, including 9,630 tons from the U. S. and 3,900 tons of Egyptian, have been purchased out of the bi-zone's import-export account. Thus far only 9,540 tons of wool for domestic consumption and 5,000 tons for making export goods have come into the bi-zone, whereas normally 40,000 tons were consumed annually with 10% of production going for export.

RUSSIA

By Robert Magidoff

Aiming to triple gross output under the current 5-yr. plan launched in 1945, the Soviet textile industry during 1947 maintained a steadily rising production curve, correspondingly expanded domestic output of raw materials and textile machinery, and launched production of new types of Soviet-designed machines stated to be unique in the textile world.

Gross output of Soviet textile mills rose steadily, standing 37.6% above 1946 at the end of the third quarter, 1947. In the woolen branch and in silk, the output of each was 3,300,000 yd. ahead of schedule. Successful completion of output goals inspired the textile workers of the major Ivanovo mills in Central Russia to call for completion of the entire 5-yr. textile plan in 4 yr. by April, 1949. For the next few years, the plan envisages rehabilitation of 51 war-devastated plants, reconstruction of 30 mills, completion of 36 plants under construction, and the building of 70 new large plants; all of which should accelerate the rising output.

In the postwar expansion, the prewar trend toward bringing mills closer to raw materials and consumers has been resumed. In Siberia and the Soviet Far East, cotton cloth output is to expand 3.6 times;

Rayon Reports

Published Monthly by American Viscose Corporation, New York, N. Y. February, 1928

AVC Publishing Comprehensive New Handbook "Spinning Rayon Staple on the Cotton System"

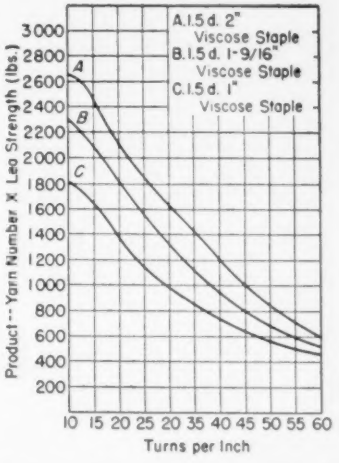
Based on long research and practical experiment in the American Viscose Corporation Textile Research Department, a new technical handbook entitled "Spinning Rayon Staple on the Cotton System" will soon be released by the Corporation.

Written by men intimately associated with the subject, the book has been compiled from information accumulated through years of exhaustive research work. Containing 144 pages, it tells of the development of rayon staple, describes its properties, and details the methods and techniques developed to help manufacturers achieve the best results from its use on the cotton system.

For example, it charts the effects that the various deniers and staple lengths of "Avisco" rayon staple can provide. Proper procedures for blending, tinting, picking, carding, drawing and spinning are analyzed, as are numerous other processing steps such as weaving, dyeing, printing.

Photographs, charts and tables accompanied by descriptive captions furnish a wealth of additional information, while a carefully detailed table of contents makes reference easy.

The book is offered free to technically qualified persons who request it on their business letterheads.



One of the 35 informative graphs from the handbook. It visualizes the effect of twist on the Lea-Skein Product of 20/1 yarns of Avisco viscose rayon staple.

Rayon tow entering a staple cutter, in the process of becoming Avisco rayon staple, as shown in the new handbook "Spinning Rayon Staple on the Cotton System."

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NEW YORK, Feb. 1928—Better processing of other textile fibers is resulting from knowledge gained from new rayon processing machinery, a trade magazine observes.

LEWISTOWN, PA., Feb. 1928 — American Viscose announces it will build a $1,250,000 addition to its plant here this year.

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in Central Asia, it is to double. The silk output of Central Asian republics is to expand sixfold; while woolen output is scheduled to increase 5.7 times in Kazakhstan. Silk production is being established in the Urals and in the Ukraine. Textile machinery is the latest item to go off the Soviet import list. In 1947, native machine building, covering over 400 items of textile equipment, became self-sufficient for Soviet needs.

Great development is foreseen for the rayon branch of the industry, output of which is to increase 4.6 times under the current plan. By 1950, synthetic fibers of all kinds are scheduled to be the country's second most important raw material, after cotton and ahead of wool. The growth of synthetic-fiber output is closely allied with progress in Soviet technology and machine-building. Current Soviet technical effort is directed toward development of a continuous process for viscose fiber and cuprammonium rayon. Mass production of acetate rayon was launched in 1947 for the first time in the USSR.

Soviet textile planners expect to achieve by 1950 a productivity of mill labor 27.3% above 1940, mainly on the basis of new highly productive machinery. While textile mills built during the first prewar plan of the 1930s were equipped with machinery modelled after the English Lancaster mills, the new mills established in the Soviet East have been equipped with machinery of Soviet design made at Soviet factories. Labor productivity at the new mills is stated to be twice as high as for the industry as a whole. The number of automatic machines in Soviet textile mills increased 20 times between 1921 and 1945. The goal set for Soviet textile machine building is an output capacity of 1,400,000 spindles and 25,000 looms by 1950.

ITALY

By Diego Straniero

Higher wages and a falling-off in foreign buyers have all but killed the 1946 textile boom in Italy. Most of this year's production was in response to 1946 orders. The government has allocated 2,500,000,000 lire to the Instituto Serico Italiano, which organization is charged with the reorganization of the slumping raw-silk branch of the industry. Suffering largely from the competition of rayon, the silk producers have been operating as traditional on an artisan basis.

Rayon production led the Italian textile field by a wide margin. New types of material are scheduled for several plants in Turin and Milan, pending the easing up of the current wood-pulp shortage. Lack of this raw material has caused some plants to transfer operations to South America where there is ready supply of wood pulp.

SWITZERLAND

By Selva P. Fischer

Switzerland's textile industries came through 1947 with production and market outlets the most satisfactory since prewar years. Demand for textiles and textile

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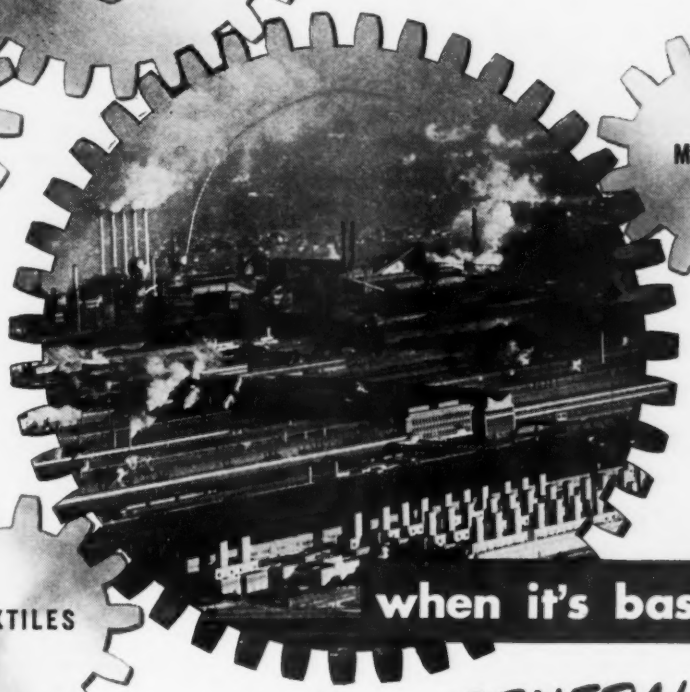

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products was great and constant, and raw materials were more easily obtainable than during the war years.

Although 1947 cotton-cloth production figures are lacking, it is estimated that the 1946 figure of 102,300,000 yd. was well surpassed. With 20,250 looms at work, Switzerland imported in the first 9 months of the year 9,378,600 lb. of cotton cloth and exported 3,781,800 lb. Approximately 48,000,000 lb. of cotton yarn were produced in 1947 with 1,250,000 spindles at work. This was an increase of about 880,000 lb. over the 1946 figure.

Silk exports increased over 1946 figures. For example, in silk yarn, the 1947 export figure was 121,000 lb. compared with 38,651 lb. in 1946. At the same time, domestic consumption of silk decreased, with 363,000 lb. in 1947 against 598,180 in 1946.

The foreign-exchange situation makes the outlook for 1948 somewhat bleak as far as exports are concerned. Swiss francs are as much in demand in Europe as the American dollar, and most of Switzerland's customer countries are short of francs, thus making it impossible for them to buy as they did up through 1947.

CZECHOSLOVAKIA

By Elizabeth Fisher

Both production and export of textiles are rising every month, but shortage of skilled labor and raw materials constitute major problems. The following comparative figures cover the nationalized sector, which represents 55 to 60% of the whole industry, and clearly show the general increase in turnover, exports, and efficiency. Figures are in crowns which are worth about 2¢ in U. S.

	July 1946	June 1947
Turnover	480,000,000	1,200,000,000
Export	100,000,000	185,000,000
Turnover per employee	7,320	12,600
Average wage per hr.	11.85	12.90

The Kunert plant, at Varnsdorf, and Bata, of Zlin, have commenced large-scale production of Pearlon and Silon stockings this year. Small quantities have appeared on the home market, but most have been exported.

In line with the general plan to industrialize Slovakia, a number of new textile factories are being built there. The SVIT combine has been allotted a mill which will be equipped with new machinery, mainly supplied by Switzerland. A new rayon plant is being erected in Bratislava, equipment for which is mostly coming from the U. S.; this plant will increase Czechoslovakia's output to 26,400,000 lb. annually.

SPAIN

By Antonio Vila

Black-market operations and the reluctance of officials of the Franco government to release export figures makes a statistical survey of Spain's textile effort quite unreliable. Greatest activity, however, is found in synthetics where total production this year topped 33,000,000 lb.

Annual export of cotton cloth from the country's 70,000 looms was put at 600,000,000 pesetas. (The pegged rate of the peseta is 15 to the dollar; rate fluctuates

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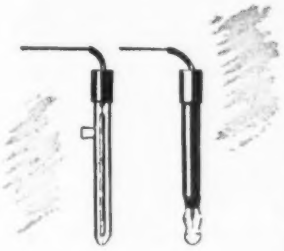
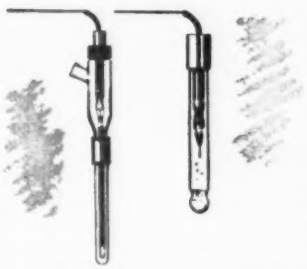
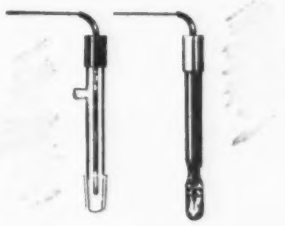


HIGH pH GLASS ELECTRODES. Pioneered by Beckman, these glass electrodes permit accurate measurement of high pH solutions with negligible error *even in the presence of sodium ions.* Ideal for use on detergents, soaps and many other applications where regular glass electrodes are useless.

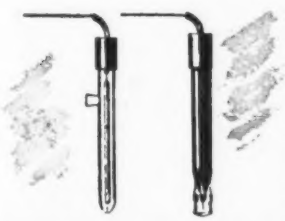


HIGH TEMPERATURE GLASS ELECTRODES. Another development pioneered by Beckman, these electrodes can be used directly in high temperature process solutions to 100° C. (212° F.) without damage. Eliminates special sampling devices and greatly simplifies control of hot processing solutions.

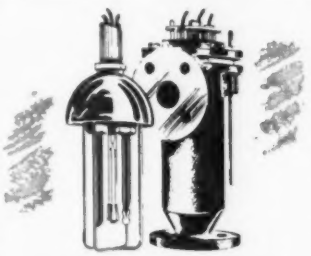


RUGGED DUTY GLASS ELECTRODES. Still another Beckman development, these electrodes are specially designed for direct immersion in tanks and flow lines where abrasion is severe (paper pulps, ore slurries, etc.). Not only abrasion resistant, but also withstand more than 100 lbs. pressure on immersion end.

PENETRATION TYPE GLASS ELECTRODES. The pointed application end greatly simplifies direct pH measurements of cheeses, fish, fruits and similar semi-solids where penetration of outer surface is desired for internal pH measurements.



SURFACE TYPE GLASS ELECTRODES. On these Beckman electrodes the application end is nearly flat in order to simplify pH measurements on skin, hides and moist surfaces of materials where pH measurements of outer surfaces are desired.



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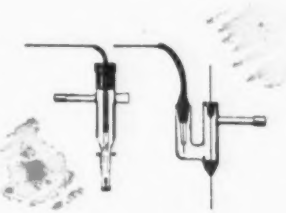
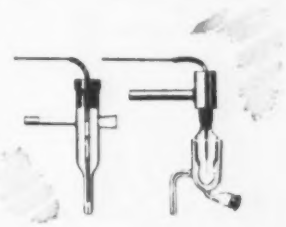


MICRO GLASS ELECTRODES. One of dozens of specialized Beckman pH electrodes for science and laboratory investigations. This type permits quick, convenient and accurate pH measurements on samples of less than one drop.



HYPODERMIC GLASS ELECTRODES. One of many specialized Beckman pH electrodes for medical use. In this type, 0.5 ml blood samples can be injected from hypodermic needle through membrane with minimum exposure to air. Other types are also available.

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between 20 and 25 in the free market.) Cotton prints make up the bulk of exported material.

Wool-goods-production figures were unobtainable. Spanish wool yarn from the merino sheep is of high quality and in sufficient abundance to meet the country's demands. No imports were claimed and export figures were unobtainable.

HOLLAND

By Paul Catz

Cotton branch of the industry comprises 20 spinning, 200 weaving, 225 knitted goods, and 4 hosiery mills. Production of cotton yarn in 1947 was 85% of prewar, of woven cloth 70%. These comparatively low figures are due to shortage of labor and of modern equipment; 8% of spinning and 5% of weaving capacity was damaged in the war. Before the war, there was a considerable import of cotton yarns. This import has now been reduced to a minimum. Exports are gradually increasing.

There are 103 spinning and weaving mills in the wool branch. Production in 1947 was very satisfactory: spinning around 150%, weaving about 110% of prewar.

Two large concerns, AKU and NYMA dominate the rayon sector, the former being the leading concern. Though 35% of spinning capacity has been damaged, production is now at 107% of prewar. There is a considerable export. The AKU rayon staple plant was put into operation at the end of 1946. AKU's tire-cord rayon plant began operations in 1947.

On the whole the Dutch textile industry is again making headway. The number of workers is 135,000 against 140,000 prewar.

SWEDEN

By G. Howard Smith

The Swedish textile industry has had a remarkable record for steady employment, but this has not saved it from the postwar malady of a high labor turnover. Although productivity in the cotton sector has declined in consequence, wool-yarn and cloth manufacturing shows the opposite tendency. This is ascribed to general rationalization and greater use of automatic machinery.

Sweden is about 80% self-sufficient in finished textiles, but must import all natural raw materials. Nylon has not yet been produced on a commercial scale, but experiments with a 5 to 10% mixture of nylon staple in wool fabrics indicates increased use.

Rayon filament is now being produced by the continuous process of International Rayon Corp. at AB Cellull's new mill at Alvenas. Output of rayon yarn will be raised from 3,960,000 to 7,920,000 lb. annually. The concession is for all Scandinavia.

Staple fiber is temporarily out of favor. People can afford real wool, and are reacting from wartime mixtures. Manufacturers are convinced, however, that they will return (though in reasonable combinations) when money gets tighter again.

(Continued on page 214)

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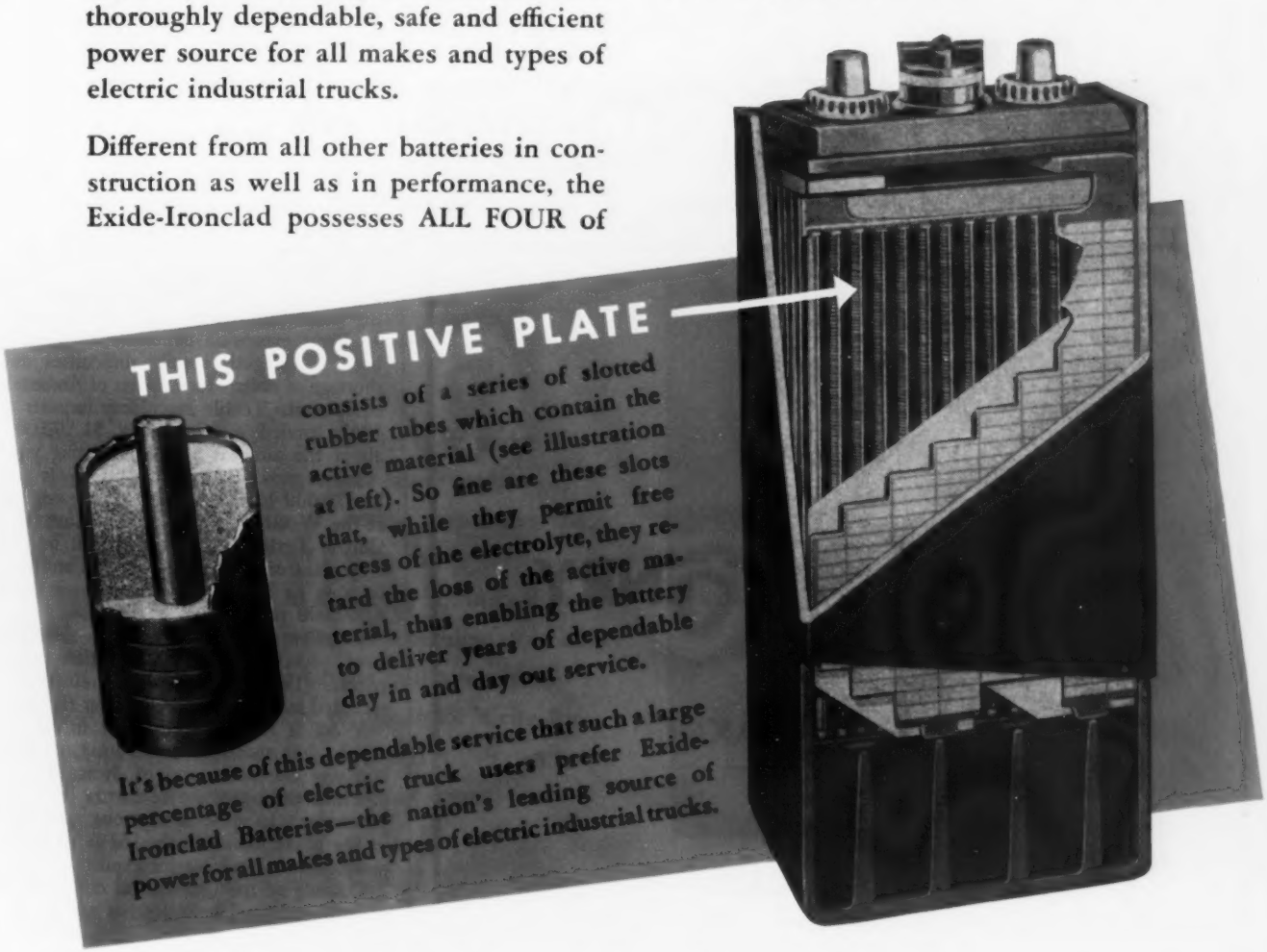
THIS POSITIVE PLATE
consists of a series of slotted rubber tubes which contain the active material (see illustration at left). So fine are these slots that, while they permit free access of the electrolyte, they retard the loss of the active material, thus enabling the battery to deliver years of dependable day in and day out service.
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(Continued from page 212)

BELGIUM

By Margaret Kocher

Production of yarns in 1947 will reach 367,400,000 lb., exceeding 1938 by almost 6,600,000 lb., and 1946 by 61,600,000 lb. Woven goods will hit 286,000,000 lb. compared with 241,731,600 in 1946 and 234,300,000 in 1938. About 51,000 persons are now employed in weaving.

Rationing was lifted from textiles at the end of 1946, but prices are strictly controlled, and the government has limited yarn exports to maintain sufficient stock for local cloth production.

Since up to 20% of the country's exports are textiles, a decrease in 1948 will be serious. A decrease is nevertheless expected because of the 3% tax on all exports (imposed August, 1947), which will raise the price of Belgian goods sold abroad; and because of the blocking of convertability of the pound to dollars. England and the Low Countries, which were principal buyers, are down to 1 and 4%, respectively, from prewar imports. Australia, New Zealand, and Scandinavia are also closed. The U. S., which was the principal cotton-rug market (55% before the war), went down to 5% in 1947, due to raising of tariffs to 50 and 90% on plain and fringed rugs.

AUSTRALIA

By Herbert Leopold

Australia's textile industry entered 1948 in a fluster of uncertainty and frustration. Slight production gains made in 1947 over 1946 are threatened by raw material and labor bottlenecks and by shorter working hours (40 instead of 44) effective Jan. 1. Plant expansion continues to be held back by English supply difficulties and shortage of dollars for imports of American equipment. Textile machinery imports in 1947 totaled approximately $1,500,000, about the same as in the preceding year.

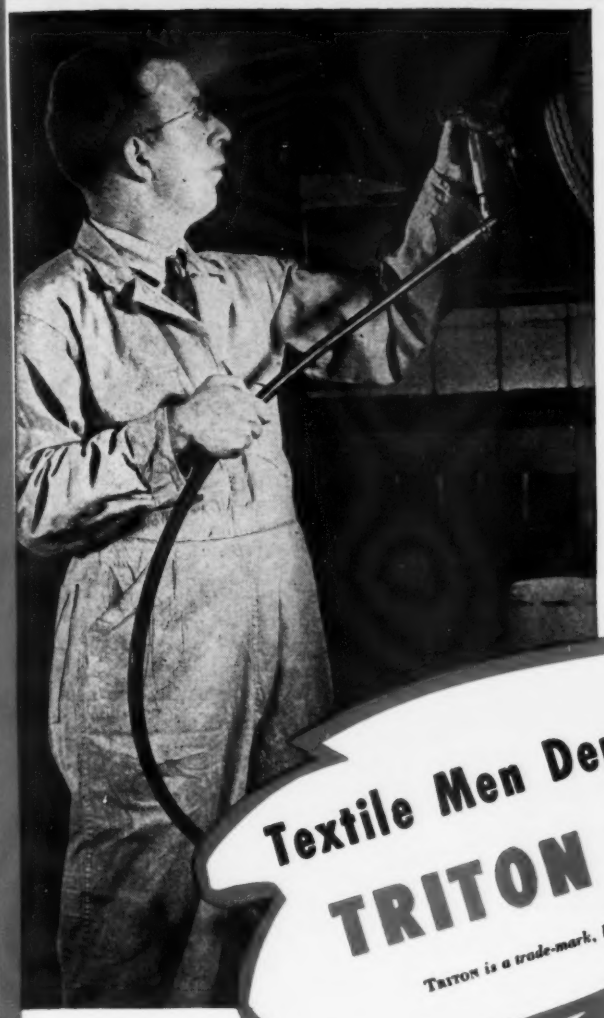
Major new installation of the year is a $1,320,000 bleaching plant now going up at the Woodville, S. A. mill of Australian Cotton Textile Industries. It will be the only plant of its kind in Australia and will be able to handle 1,000,000 sheets and 4,000,000 pillow cases a year.

Excellent labor-management relations have prevented major production stoppages. Textile-union leaders reluctantly accepted incentive pay plans after the war.

Wool is the only raw fiber in ample supply, but shortages of scouring, of carbonizing chemicals, and of dyestuffs will continue to impose severe checks on local processing. In spite of rigorous rationing in the home market, only 16¾% of cloth production is available for export.

Coaxing of the Queensland cotton belt with more liberal bounties has not appreciably increased supplies. Empire territories, topped by India, now take care of most of Australia's requirements. The U. S. share in cotton imports has dropped from 40% in 1945-46 to 11% in 1946-47. In bleached cloth, Japan will come into the picture as a supplier as a result of negotiations finalized last year.

No synthetic filament is yet produced



From Cotton Twills

TO

Bemberg Sheers

Courtesy American Bemberg Corporation.

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No matter what kind of fabrics they make or finish . . . whether it is triple sheer rayons or heavy cotton twills . . . textile men know they can rely on TRITON 770 CONCENTRATE for assured uniformity in desizing, boiling off and kier boiling. ¶ But this versatile chemical does many other jobs which make textile mill operations more efficient and more economical. Write for complete information on how TRITON 770 can help *you* with your specific applications.

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"H-W" CONDITIONER increases production over other types of equipment because the automatic controls reduce rejection of material by eliminating improper timing of conditioning treatment. The "H-W" CONDITIONER gives a more uniform product because each cylinder or spindle is reached, whereas in other types of equipment "blind spots" sometime cause improper curing of some of the material. Also saves labor as operator is able to do other work without watching the clock . . . the automatic controls of the "H-W" CONDITIONER do the clock watching". Mr. Michael F. Kopec, plant superintendent, reports: "We are very well pleased with the "H-W" CONDITIONER."

View of "H-W" CONDITIONER installed in Chipman Spinning Mills, Easton, Pa.

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How to use COLORS more effectively

FROM psychological effects of individual colors on people—to specific formulas for mixing colors to meet the requirements of artists, painters, decorators, etc.—this new manual brings together the important pointers you should know in order to apply colors for best effect. Compact and well illustrated, the book provides a unique yet simple system for speedy, accurate identification and selection of a wide variety of today's standard and popular hues, **tints, tones, and shades—including 242 formulas for mixing them.** Clear descriptions of each are given and 96 are shown in their exact color.

9 chapters cover:

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2. Pigments and Mediums
3. Color Mixing
4. How to Obtain Standard and Popular Colors
5. Color Individuality
6. Color Sensation
7. Color Psychology
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THIS is an exceptionally useful guide for anyone concerned with making a discerning use of colors. Aside from the practical discussions of pigments, mediums and mixing procedures, it supplies scientific and usable facts on aesthetic values of color and the specific influence of color on our daily living. The book includes other important data on the legibility of colors, color combinations at a distance, and sensations caused by colors. A sound explanation of various color systems is given and the author's original color charts are furnished as a new kind of key to effective color matching and mixing.

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in Australia. Courtauld's has not yet decided on the location of its long-projected plant. Bruck Silk Mills and Burlington Mills Australian weaving plants are not yet in full production. Bruck is expecting 312 looms from Canada to give the plant a balanced production. Burlington, too, is still long on dyeing, short on weaving facilities.

UNION OF SOUTH AFRICA

By J. M. Lawless

Before World War II, South Africa was not a big textile producing country, but postwar developments indicate that it will become a bigger producer than hitherto. British, French, and Belgian interests have established themselves either on their own account or by association with existing South African concerns. One South African company bought a complete plant in Britain for transfer to the Union.

Some British interests include (1) Lancashire Cotton Corp. Ltd., which has amalgamated with two others in a £2,000,000 company known as Consolidated Lancashire Cotton Corp. Ltd.; (2) Calico Printers Association of Manchester, Ltd., which has joined with the Industrial Development Corp., the government-finance corporation, in a mill at Kingwilliamstown; (3) Sanderson, Murray & Elder, who are to set up a wool-combing plant to be operated by a South African associated company.

The French company, Pollet et Cie. interested in processing wool, has bought the combing and carding machinery of a Bradford company for transfer to South Africa. Constant Despa, of Belgium, is interested in a South African subsidiary to process wool, and Italian concerns are reported to plan transfer of their plants to the Union. There is United States interest in one company, Felt & Textiles of South Africa, Ltd., through Burlington Mills Corp. of United States and L. Grice & Co. Ltd. J. Kayser & Co., also, intends operating in Bloemfontein. South Africa imports more textiles than it exports, and wool fabrics have averaged £2,000,000 a year and cotton fabrics about £4,000,000 mostly from the United Kingdom. Large quantities of greasy and scoured wools are exported mostly to the United Kingdom.

AATCC Papers

(*Continued from page 147*)

dyed goods by jigs, at the rate of one 1,000-yd. roll per 4-hr. period, will require from 20 to 24 jigs. These will take up a floor space of 2,300 sq. ft. In addition, the use of a pigment padder, taking up a space of 450 sq. ft., and roll benches for storage, requiring a space of at least 500 sq. ft., will be necessary—total, 3,250 sq. ft. One man will run from two to three jigs depending on local conditions. At an average of 2.5 jigs per man, ten men will be required, plus a two-man crew on the padder and the part time services of a color weigher and mixer.

Vat colored work will show on the average about a 40% reduction in chemical cost, with the color cost from equal to,

Improved SANTOMERSE No. 1

penetrates *FAST* ...spreads *THOROUGHLY*

Santomerse No. 1 has achieved wide use in textile dyeing operations because of its fast penetration and thorough spreading action, which are graphically illustrated in the photograph above... The right-hand glass contains water only, the water at the left contains a small amount of Santomerse No. 1. A drop of color added to each shows the quicker, more complete dispersion attained in the Santomerse No. 1 solution.

By breaking down the surface tension of water, Santomerse No. 1 provides the leveling effect needed in dye baths. It can be used prior to dyeing to wet out thoroughly and to assist penetration, or can be added directly to the dye bath... Because of its high detergency value and ease of rinsing, Santomerse No. 1 is also an excellent scouring agent for all fibres.

For complete Information on Santomerse No. 1 applications in the textile and dyeing fields, send for application Data Bulletin No. P-118. Write to MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri, or simply return the coupon. District Sales Offices: New York, Philadelphia, Chicago, Boston, Detroit, Cleveland, Cincinnati, Charlotte, Birmingham, Los Angeles, San Francisco, Seattle. In Canada: Monsanto (Canada) Limited, Montreal.

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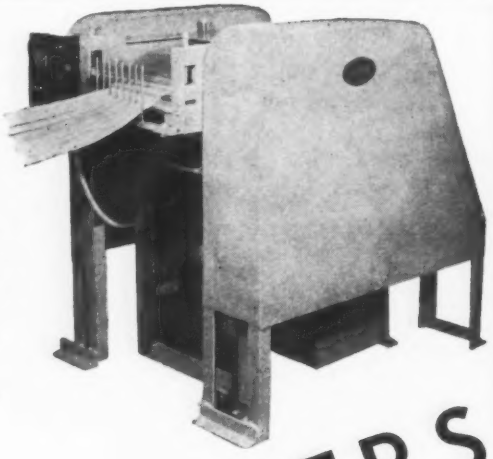
—efficient textile cutting machines have been developed to meet actual production needs. Included are:—

1) Machines to cut continuous fibers into exact uniform lengths, as for rayon staple, wet or dry.

2) To cut rags (before garnetting) for shoddy.

3) To cut thread waste and other tangled fibers.



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Is a machine to cut continuous fibers into exact lengths. Discharge can be arranged to meet particular conditions.

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- twisting
- finishing
- converting

of filament, spun rayon, and nylon yarns.

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in some cases, 10 to 25% better value in favor of the pad steam. In addition, the pad-steam method offers considerably better shaded work and requires no jig ends to be trimmed back.

Anionic Substantive Softeners

EARLE D. McLEOD
Arnold Hoffman & Co., Inc.

Although the expression "anionic substantive softeners" is relatively new, anionic compounds, as such, are old (soaps).

One of the most common mistakes made by the finisher is to use excess material in an effort to obtain even softer results. This results in wastage of materials and causes a greasy condition on the fabric. As near as can be evaluated in the laboratory, cotton or rayon fabrics will retain from 0.65 to 1% substantive softener. Regardless of the original concentration, this figure holds; and any amount in excess of this figure is removed in first washing.

Comparative laboratory tests, based on chlorine retention, indicate that cationic and anionic softeners in which the primary and secondary amino groups have been eliminated cause less loss in strength of viscose fabrics when subjected to laundry conditions containing bleach. This work indicates that softeners of this type can be used as plasticizers for urea-formaldehyde resins without adverse effects.

During the last two or three years, much attention has been directed to atmospheric fading of acetate dyes. Anti-fume agents cannot be used with acidic materials, as the latter destroy their effectiveness against atmospheric fading. However, anionic products are compatible, and the series of potassium or sodium salts of fatty amides developed in this work are compatible. No change in shade of the dyed fabric is noticed, and tests made show that the compound is not only substantive, but a useful adjunct to the anti-fume product, thus adding protection to the fabric.

In preparing a satisfactory solution of an anionic substantive softener, care should be taken to bring the bath to the boil. Normally, a concentrated stock solution containing 5 to 10% softener is prepared, from which any desired strength may be made. Fabrics may be impregnated in the usual padder or in a dyebeck, where exhaustion is nearly complete. In the dyebeck, very low concentrations may be used. When applied at the padder, approximately a 1% solution is necessary for adequate softening. Carry-over of salts from the dyeing operation will precipitate the high-molecular-weight softeners; consequently, all cloths should be given a thorough wash before finishing to insure best results. Anionic substantive softeners will not alter the final shade of dyed fabrics and will preserve the resistance to fading of the particular dye used.

Anionic softeners find use as pure finishes; as plasticizers for starches, resins, and resin emulsions, such as polyvinyl acetate; as softeners in conjunction with anti-fume products; in general, where ultimate softness is required, along with light fastness. Where a soft drapy "hand" alone is required, these products may be used to

Laurel Boil-Off Oils and Compounds for more effective degumming of pure silk, rayon and cotton mixtures.

Laurel Emulsions and Softeners for better quality, better knitability, proper conditioning, proper regain.

Laurel Hosiery Finishes for softer, smoother appearance, greater freedom from snags, more wear.

Laurel Nylon Finishes for speedier processing, improved hosiery quality.

Laurel Olamine, cation active softener for exceptionally soft finish on dyed rayons.

Laurel Rayon Oils for faster, softer yarns, improved appearance and hand of your rayon.

Laurel Ruxite Coning Oils for superior lubrication, greater pliability, fewer breaks, higher winding efficiency.

Laurel Rayon Size for smoother, stronger, cleaner, more resilient rayon warps.

Laurel Textile Oil, a favorite of hundreds of customers because of its unusual versatility for improved quality and finish of fiber and fabric.

Laurel Wool Oils for maximum lubrication.

Laurel Wool Scouring Compounds for speedier detergent action, clearer, more even dyeings, cleaner, softer, loftier wool.

Laurel Special Finishes, Water Repellents, Mildewproofing and Flameproofing Compounds.

Yes, no matter what fiber or combination of fibers you are using, you will find there's a Laurel Product that will give you exactly the finish you desire.

For over thirty-seven years Laurel has been meeting successfully myriad challenges of leading dyers, bleachers and finishers. From this reservoir of experience and service has come the long line of Laurel processing agents to give you better, more efficient processing for every dollar you spend.

Plan now to get the extra benefits Laurel Soaps, Oils and Finishes impart to your fibers or fabrics. Ask Laurel Technicians for their recommendations on your next processing job.

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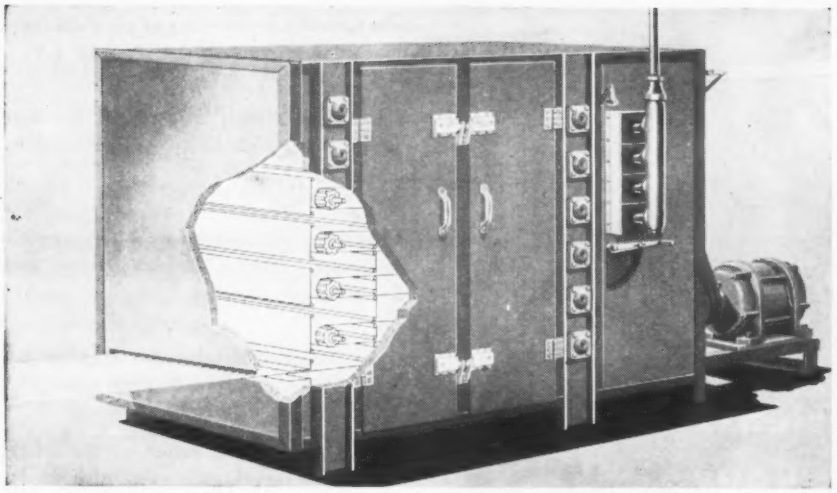

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IMPROVED WARP DRIER

This new, faster, more compact drier takes up a minimum of space . . . requires no ventilating hood, uses no steam from your boilers, is designed for oil or gas firing.

Improved features of operation include warp suspension between fluted rolls while drying, reducing hot surface contact and resulting in rounder, smoother and stronger warps that feed into looms with less shedding.

Heat Control is fully automatic at any speed, assuring uniform drying of yarn without tendering. Write today for catalog giving complete details of this improved warp drier and other IHE equipment.

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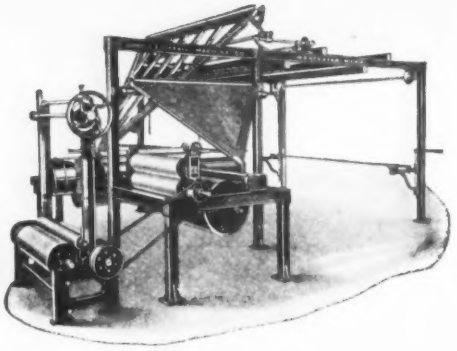


DOUBLE DOUBLING MACHINE

Designed for use on wide sheetings to double the edges together twice. The goods are double doubled to one-quarter their original width, or four-ply. The machine is readily adjusted for different widths. After passing through the machine the double doubled goods may be folded for the market on our Cloth Folders or wound on boards on our Cloth Winders.

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS.

replace sulphated tallow, under which circumstances approximately 1 lb. of anionic softener will equal 10 to 11 lb. of 25% sulphated tallow. No appreciable bodying effect is obtained, however; and it is necessary to incorporate weighters along with the softener.

Manufacturing and Processing Of Quality Blended Fabrics

EMORY A. RICHARDS
Lippitt Worsted Mills, Inc.

"Blended fabrics" as referred to here will generally mean those containing wool in admixture with rayon, cotton, acetate, or nylon. The combinations finding the greatest use are those of rayon and wool, cotton and wool and rayon, cotton and wool. Mixtures of 30%, 40%, and 50% of wool with 70%, 60%, and 50% of either rayon or cotton currently enjoy the greatest popularity. Blended fabrics are not new; but during the last 8 to 10 yr., they have received the greatest attention.

Formerly, it was felt that a dry-combed top was essential for use in blended fabrics. However, it has been found that oil-combed top can be used to better advantage. This may be due, in part, to the use of mineral oil blends instead of olive oil and also to the fact that most wool top now used is not allowed to age.

The practice of using sighting colors for the identification of different blends of fibers is frequently the source of considerable trouble during wet-finishing and dyeing. Colors having no substantivity to either natural or synthetic fibers are ideal, and certain types of micro-powders fill this requirement; however, they lack tinctorial power and are very difficut to keep in suspension. Acid colors are most widely used, but their affinity for wool is great; and if subjected to moist heat such as steam, it becomes necessary to use stripping agents for complete removal.

The two most commonly used methods for dyeing blended fabrics are the union and vat processes. Formerly, application of vat colors to blends was not practiced too extensively.

Synthetic Detergents In Textile Processing

H. C. BORGHETTY
General Dyestuff Corp.

There are three main chemical classifications of detergents according to their ionization characteristics:

First is the anion-active, embodying a solubilizing group which imparts to the molecule its ability to function in water solution. Soap belongs to this group as well as the great majority of synthetics, such as the sulphonated fatty-acid esters and amides, the sulphonated alcohols, the alkyl aryl sulphonates, the polyether sulphonates. The long chains present in these products are non-polar, akin to grease and oil, and thus miscible there with and subject to removal in the presence of water because of the polarity. Their use in the textile industry has been known here for many years, particularly as a fulling compound.

The second type of detergent is cation-active and has a polar group which is

NOW 4 TEXTILE OILS TO CHOOSE FROM

✓solube 463

Self-emulsifiable easily-scoured oil. A very stable wool and worsted lubricant designed specifically to reduce the amounts of soap needed in scouring (and fulling), some fabrics require none. Solube 463 most readily scourable of any oil available.

✓lard oil

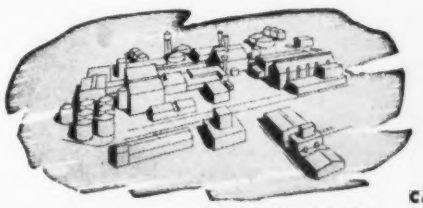
Lard Oil (winter strained). Emersol Lard Oils are characterized by a uniformity uncommon among lard oils. They conform to standard "Industry" specifications and can be furnished with pour points lower than standard specifications.

✓oleic acid (red oil)

Highest stability red oils. All grades of Emery's Oleic acids exhibit unique stability as demonstrated by their resistance to OXIDATION and RANCIDITY; better performance in Mackay Test.

✓wool and worsted oils

Self-emulsifiable mineral-type oils. Twitchell Worsted Oil MC and Wool Oil 308, sulfonated mineral type oils, have long been accepted for wool and worsted stock lubrication. These extremely stable oils are recommended for normal uses not requiring the unusual scourability of Twitchell Oil 463.



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Is Down Time a pain in your neck?

Thousands of RunRite Plastic Sheaves have been running continuously, in many plants, for over six years, and still going perfectly. Under similar conditions they should do equally as well for you. Figure your savings in reduced down time alone. Then, bear in mind, that RunRites' smooth, perfectly balanced strap surface means longer life to harness straps. Once installed, they need no further attention for years of dependable service.

RUNRITE TRADE MARK *Plastic Sheaves*

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● For nearly a century, Cole has been designing and erecting elevated tanks for the textile industry. Mill engineers know from experience that Cole tanks deliver the most dependable water service for sprinkler systems and general use, with the very lowest maintenance cost. Call on Cole for assistance with your problems.

Write for the latest Cole Catalog — "TANK TALK"

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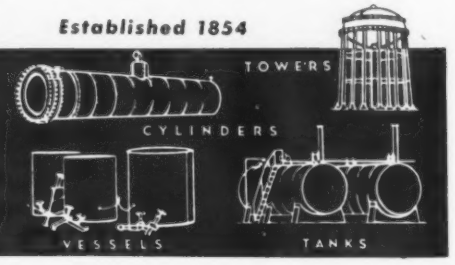
Established 1854



part of the negative charge of the molecule thus leaving the large bulky portion in the plus charge; hence the name. This type has few representatives and is of value only for few cleansing uses. For mineral-oil removal, they are very valuable at times. As a group, they are more popular when manufactured with emphasis on the softening properties and dye-fixing properties, rather than on detergency.

Detergents of the third type, known as the non-ionics, are relatively new and of interest wherever absence of chemical activity and compatibility with all types of compounds are needed. A consequence of their chemical nature is the lack of substantivity for textile fibers which results in lack of lubrication but also means quick rinsibility. Some are soluble or miscible with non-polar liquids such as kerosene, thus opening up the possibility of combinations of value as self-scouring lubricants. Detergents of this third class possess emulsification and wetting properties because of their surface-active effect of concentration at the surface or at the interface.

The use of anionic synthetic detergents in the large-capacity boil-off tanks, developed by the spun-rayon finishers during the last few years, eliminates the use of a hard-water-corrective agent and pays its way for that alone without even considering the advantage of the long-standing baths which are imperative in complicated machinery and which necessitate long cleansing periods. The same considerations hold true for the progressive jigs recently developed for heavy fabrics. The new self-scouring oils used by wool mills already point the way to the future expansion of a field to which synthetic detergents contributed a great deal.

Tension Control

(*Continued from page 131*)

to a phototube. The output of the phototube varies directly with the quantity of light shining on it and hence becomes a measure of the length of the loop.

This signal—properly amplified—can be fed into an electronic field-supply unit for the follower motor and used to adjust its speed to maintain the floating loop and eliminate tension in excess of that due to the weight of the cloth between units.

BATCHER TENSION. When a batcher is used at the end of a range to receive the cloth when finished, winding should be done at constant or slightly decreasing tension to preserve the uniformity of the cloth thus far maintained.

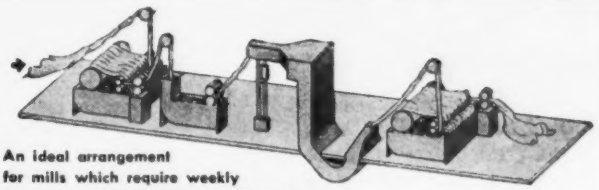
The cloth is delivered to the batcher at a speed fixed by the range, so that the batcher motor has only to supply a torque which increases directly with the diameter to maintain constant tension.

The three items listed in Fig. 11

DU PONT

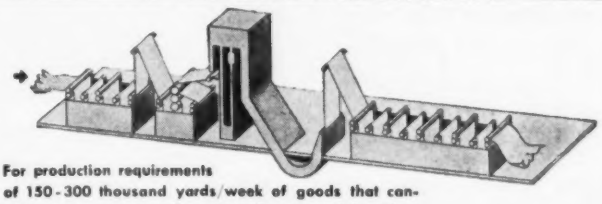
has a Continuous Peroxide Bleaching System for most bleaching needs

ONE-STAGE ROPE SYSTEM



An ideal arrangement for mills which require weekly production of 200-500 thousand yards of goods averaging 3 yards/pound or lighter.

ONE-STAGE OPEN-WIDTH SYSTEM



For production requirements of 150-300 thousand yards/week of goods that cannot be rope-processed—especially successful with a wide range of heavy fabrics.

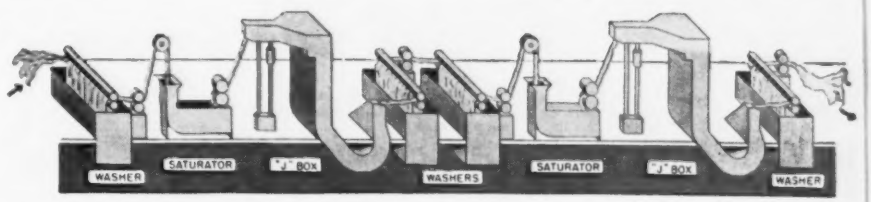
LOOK INTO THESE SYSTEMS NOW!

You'll find them . . .

1. **Just what you need** to produce quality bleaching at lower over-all costs.
2. **Flexible**—readily adapted to speedy, uniform processing.
3. **Easy to set up,** operate and control.
4. In use by **many leading mills.**

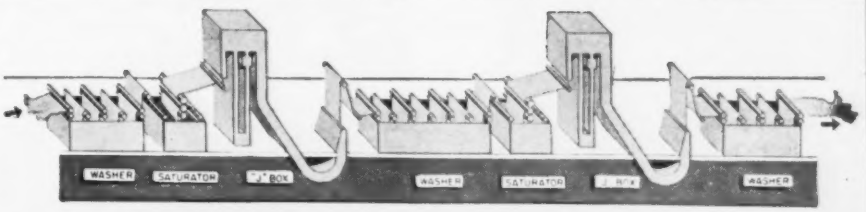
TWO-STAGE ROPE SYSTEM

For processing a wide variety of fabrics; print cloths, sheetings, shirting, shade cloth, etc.; handles 1-⅜—1-½ million yards/week of 4 yd. goods.



TWO-STAGE OPEN-WIDTH SYSTEM

For cloth that cannot be handled in rope form. Operating speed generally between 75 and 125 yards/minute. Any degree of bleaching obtained by adjusting peroxide strength.



Send for this NEW BOOK!

It shows typical continuous bleach layouts designed to fit the requirements of various plants. For a copy just write: E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

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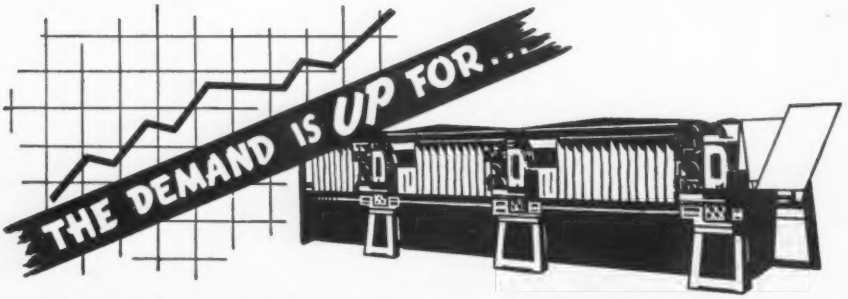
...THROUGH CHEMISTRY

DU PONT



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Demand of the textile industry is up for Drummond Soap Flakes! And no wonder. These easy to use and quick sudsing flakes possess the same formula features of Drummond Soap—well known in the industry for years.

Now you have your choice, Drummond Soap Flakes — or Solid Drummond Soap!

Both have the advantages of high body and low alkali content — advantages that leave fabrics clean with a downier feel, brighter colors, and whiter whites. Try a sample and note the difference.

Write today for your FREE working sample of Drummond Soap — just ask for Flakes or Solid.

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The Fleet Line

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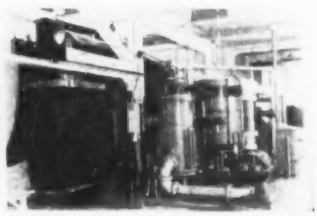
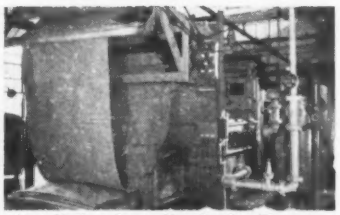


Installation in a New England mill making women's wear woolens.



Installation in a Maryland mill making cassimeres, flannels, tweeds and shetlands.

Fabrics now being handled by this machine include woolens, worsteds, rayon mixtures and mohair plushes. Although it involves a considerable investment and volume production, many machines are now in use. Constant improvement in design, greatly decreased solvent consumption and tremendous operating economies account for its popularity.

ADVANTAGES

1. Removal of tar, paint, asphalt, creosote, pigment, chalk, etc.
2. Almost any type of wool oil can be used—even cheap mineral oils.
3. Tremendous savings in oil, through reclamation.
4. Elimination of stream contamination from oil residue.
5. Reduces burling and mending.
6. Great reduction in perching.
7. Minimum oil content in the finishing room.
8. Scouring usually eliminated.
9. Little or no soap required.
10. Big saving in hot water.
11. Possibilities in acid fulling of Derby Dry Cleaned fabrics.
12. Reduction in redyes and seconds.

RIGGS AND LOMBARD

FOOT OF SUFFOLK ST., INCORPORATED LOWELL, MASS.

comprise the batcher equipment frequently used for winding cloth. By far the greater number use the straight series connection, but in some cases it has been possible to extend the operating range by using an adjustable resistor shunted across the motor.

This equipment is used most advantageously for relatively small powers —less than 1 hp. It is simple, easy to operate, and relatively inexpensive. For diameter ratios less than 6-to-1, it will hold tension constant within plus or minus 15 to 20%. Admittedly, this is not close regulation, but it is good enough for most dry fabrics. With friction drive, the corresponding variation in tension may go to 600%.

When closer regulation of winding tension is required, it can be provided with regulation of armature current through electronic field control.

Many other tension-control problems exist in the textile industry, but the foregoing are typical and illustrate most of the schemes used, singly or in combination, to solve them.

Waste Control

(*Continued from page 123*)

of each month, the weekly waste-weight entries are added up. Fig. 5 shows a type of sheet used for this record. After the yarn man weighs the waste on Saturday morning, he puts it in a yarn waste box which is divided into three parts: one for welts, one for knitted pieces—such as portions of the leg or foot—and the other for strings and waste that the knitter collects during the pulling of ends, etc. The yarn that the yarn man strips off the empty cones is also put in this portion of the box.

All waste that the top-on girls make or accumulate in the topping-on of stockings for the knitters should also be put in the waste box. At the end of each month, this waste is boxed up and sold. Since the waste is already separated, it is much more easily boxed and also brings a better price when sold. The boxes are weighed before shipping; this gives an accurate percentage of waste made during the entire month. (It must be understood that there will always be a small amount of waste that is found in the sweepings which is not recorded. By adding 2% to the total poundage of waste shipped, you will get a good working percentage of waste for the month.)

A needle consumption, and waste record, Fig. 6, recorded each month, illustrated with graphs, should be used by every superintendent to keep a constant check on his waste percentages for each month during the year. With

Spindle Hole

never wears egg-shaped

The bearing surface of Dayton Reversible Drop-Box Pickers is "built in" with specially compounded rubber that is extremely hard . . . will never wear egg-shaped and requires no lubrication. Dayton Pickers are scientifically designed, carefully built, to take a terrific beating from high-speed looms, and to give better, more accurate shuttle contact for a longer time than other type pickers. Manufactured under specially engineered "3-Point Density Control" specifications, Dayton Reversible Drop-Box Pickers, last longer, give cleaner, faster production. Available in varied sizes, or Daytons can be tailored to meet your specifications. If they aren't standard equipment in your weave room it will pay you to get the facts. Write today to Dayton Rubber, Dayton, Ohio or *Textile Division —Main Sales Office: Woodside Bldg., Greenville, S. C.*

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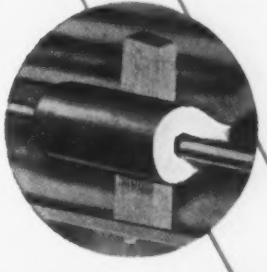
2. Soft Around Picker Stick Hole. The exact amount of cushion is provided at the picker stick contact point to absorb the terrific impacts. Less wear on the stick and longer life for the picker.

3. Still Softer at Shuttle Contact. A still softer composition is used at the shuttle contact point. This eliminates shuttle point loosening, helps assure a perfect throw throughout the life of the picker.



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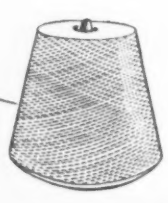

production records, the graphs show the fluctuations in production, needles used, and waste made. Emphasis upon these three factors is valuable in obtaining efficiency and low operating cost.

Testing for Aptitude

(*Continued from page 145*)

Besides aiding in the selection and placement of new employees, the Ortho-Rater serves an important function in assisting employees having eye fatigue or other discomfort. The Ortho-Rater is leased from Bausch & Lomb as part of their Industrial Vision Service program. As one phase of this service, Bausch & Lomb proposes to acquaint local eye doctors and optometrists with the Ortho-Rater analysis. If the Ortho-Rater tests show that an employee of Shannon needs eye attention and the employee elects to consult a doctor, the mill will supply the doctor with that employee's visual profile and also a "visual job description," which provides a basis for comparing the employee's visual skills with those demanded by the employee's job.

MECHANICAL-BLOCK TEST. Known as the O'Connor Wiggly Block Test, this test is designed to indicate the dexterity, mechanical judgment, and mental reaction of the applicant. Approximately 10% of the applicants who take this test are turned down for employment.

A wooden block is cut into nine parts, the cuts being wavy (wiggly) rather than straight. The test consists in the applicant reassembling these nine parts, after they have been disarranged, so that the pieces again form the block.

In administering the test, the personnel manager explains and illustrates the structure of the block, the shapes of the pieces, and the manner in which the pieces fit together. With the applicant looking on, the block is disassembled. The time, in minutes and seconds, required by the applicant to reassemble the block is recorded. The applicant puts the block together three times, and the time requirements are averaged.

As in the eye test, standards of acceptance are based on the performance records of present employees. Since this test is of particular importance in selecting apprentice knitters, the manner in which the applicant goes about assembling the block is perhaps as important as the final score. For example, an applicant who thinks somewhat in mechanical terms will show some degree of system in putting the parts together. He will be in-

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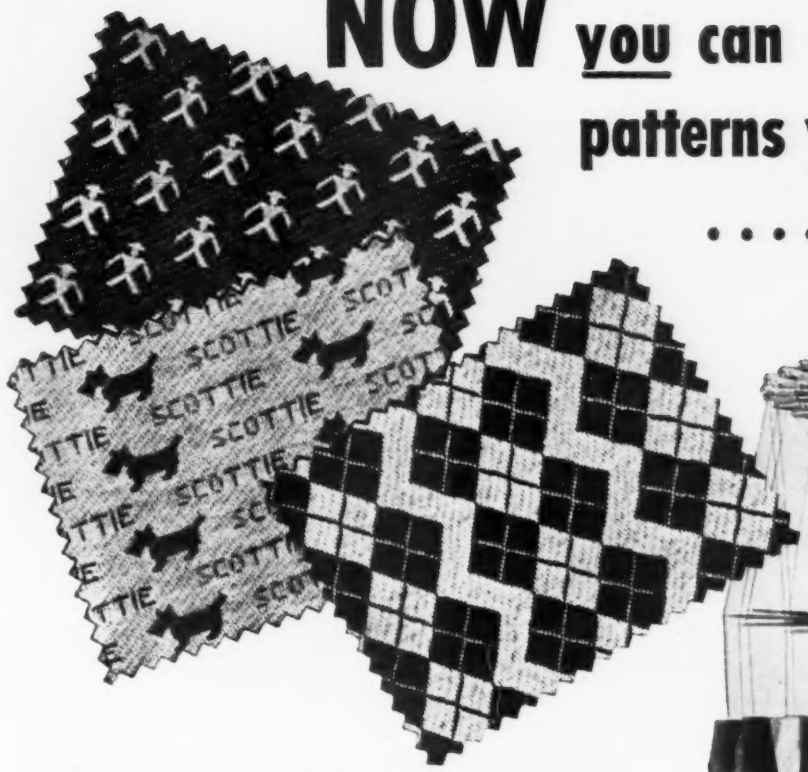

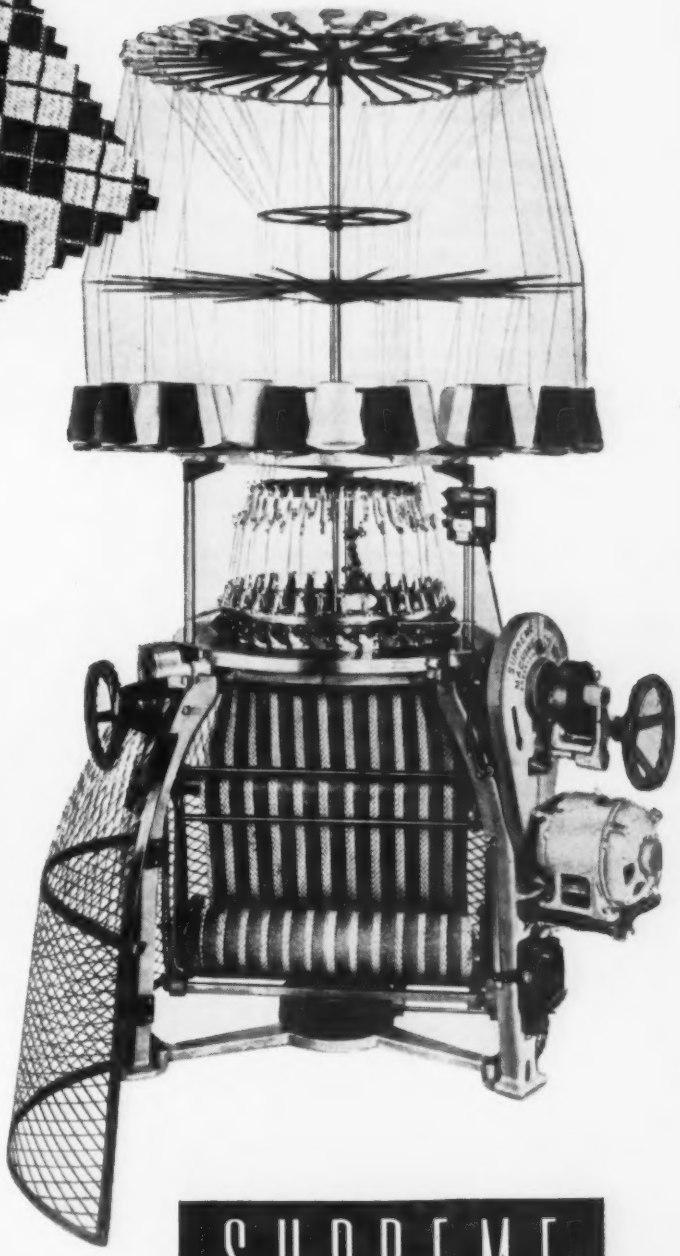

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THE CASE OF THE 70-COLOR BOTTLENECK

Notes from the Herrmann Casebook on Successful Management

PRODUCTION AT COMPANY C, a well-known manufacturer of woven and knitted goods, was falling behind. The company blamed the carding room for the delay. But the real bottleneck existed elsewhere.

THE ANSWER: A survey showed two major difficulties—the fact that more than 70 basic colors were used and a poor mill layout. Following our recommendations, the number of basic colors was reduced to less than 20. And a complete organization chart was drawn up.

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clined to inspect each piece, realizing that corner pieces will have two flat sides, side pieces one flat side, and the center piece no flat sides.

TWEEZER-DEXTERITY TEST. The principle burden of this test is to determine how quickly the applicant can pick up small pins with a tweezer and place them upright in small holes in a board. Aptitude at this test indicates aptitude at work that involves steadiness, precision, and dexterity of the fingers—which, of course, presuppose coordination between the eyes and the fingers. This test is of particular importance to applicants who will be placed on jobs that require handling knitting needles.

A rectangular board contains 105 holes. This board is placed on a desk before the seated applicant so that the holes are vertical. A tray at one end of the board contains 105 stainless-steel pins about $\frac{1}{16}$ in. in diameter and approximately 1 in. long. A pair of ordinary tweezers is furnished. The applicant picks up one pin at a time and places it in one of the holes in the board. He is allowed to practice with ten pins before the test starts. The time required to place the 105 pins in the holes is recorded.

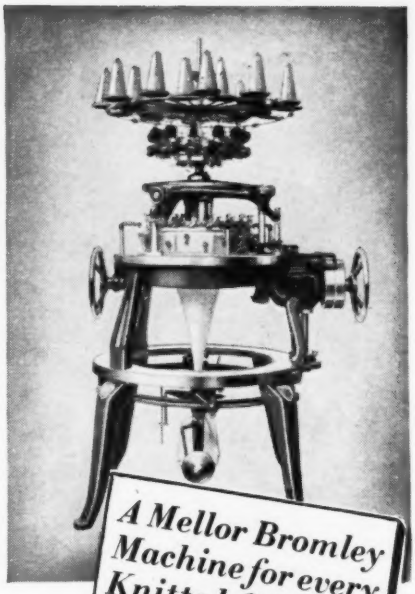
The applicants at Shannon range in age from 18 to 30 yr. It has been found that men are usually more dexterous at this test than women. The failures at the test, however, run about 10% for both men and women because of the higher average score established by the men in the plant. The average time required for the applicant to place all the pins is about 8 min.

BLOCK-MANIPULATION TEST. There are two phases to this test: (1) turning the blocks, using both hands, and (2) placing the blocks in holes in a board with one hand. It is designed to measure the speed capacity for simple coordination of the eyes and hands, and is of use particularly in testing applicants who will be trained for boarding, wrapping, etc.

The apparatus used for the tests consists of a set of round wooden blocks and a board with parallel rows of holes into which the blocks fit loosely. The blocks are about $2\frac{1}{2}$ in. in diameter and $1\frac{1}{2}$ in. thick. One end of each block is painted red and the other end yellow.

The turning test is only a test of the speed at which the applicant, with one hand, can pick up one block at a time, reverse ends, and place the block back in the hole in the board. He is timed from the turning of the first block to the turning of the last.

The board is now lifted from around



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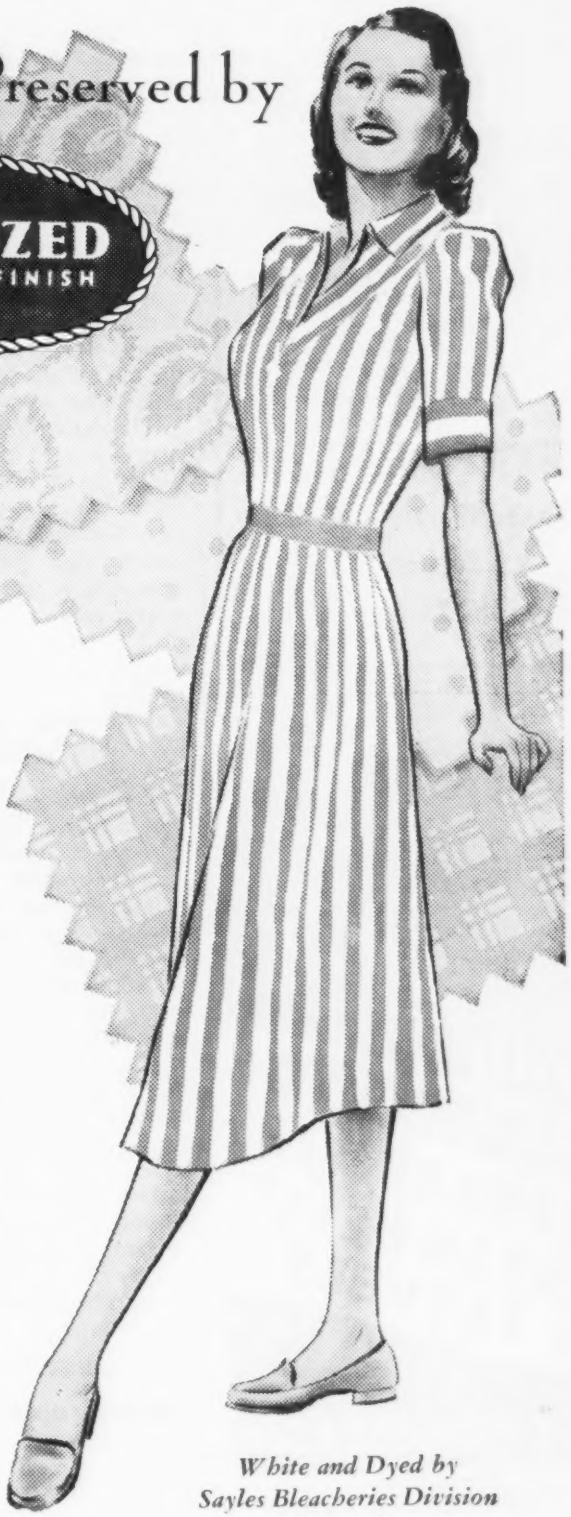

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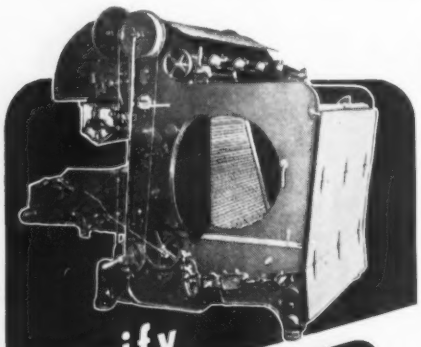

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the blocks and placed on the desk alongside them. The placing test requires that the applicant lift a block with one hand, transfer it to the other hand, and place it in a hole in the board. He is also timed for this test.

An average time for performing each of these two tests four times is taken; and the applicant's grade is determined from this average time.

ORIENTATION. If the applicant is accepted for employment, considerable attention is given to orienting him properly. His first contact at the mill, after being employed, is with the personnel manager, who takes the new employee to the head of the department in which he is to work. The foreman, already acquainted with the employee, selects someone in the department to show the new employee around the department. He is shown the rest room, cloakroom, water fountain, soft-drink boxes, etc.

The employee is given, by the foreman, a printed copy of the shop rules. He is asked to study the rules and ask the foreman any question he may have concerning them.

After these preliminaries, the new employee is introduced to a skilled worker on the type of job for which he is to be trained. He remains with this worker and receives his job training under him. The foreman talks with him periodically during the training period to find out how he is progressing.

Considerable effort is directed toward making the new employee feel at home. One of the important things impressed upon new and old employees is that a solution can be reached to any reasonable problem. Not only the foreman but also the officials invite discussion of complaints of any significance. The first effort to reach a solution is, of course, made by the department head. If satisfaction is not reached, the worker is at liberty to take the matter further, incurring no ill will from anyone concerned.

Results already obtained from this personnel program indicate that the program is sound. It is anticipated that as it continues and broadens in scope, advantages not yet seen will become evident.

Rayon Staple

(*Continued from page 141*)

Rayon staple, particularly deniers from 1.5 down, should be run on pickers that have considerably lowered pressure on the calender rolls. Otherwise, small lumps of fibers that may

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come through the picker unopened will be crushed and pulverized, resulting in lower quality. The pressure should in most cases be reduced at least 50%, and in some cases it can be reduced more.

Since all types of rayon staple picker laps have a tendency to split, it is very helpful to use lap-marking devices both top and bottom installed on the picker just behind the calender rolls. Most pickers have the bottom-marking device, and it is a very simple matter to construct and install a marking device for the top also.

Rayon staple condenses very much, and sometimes the lap pins are very difficult to remove from the laps. In order to correct this condition, it is advisable to use tapered pins, or better still to use heavy cardboard tubes over the lap pins. In the latter case, the trouble of removing lap pins will be completely overcome.

The setting of the stripper plate for rayon staple should be as close to the pins of the beater as possible without risking damage to the beater. For long staple, this is particularly true in order to prevent the stock from winding around or adhering to the pins of the beater. A setting of $\frac{1}{8}$ in. is normally satisfactory for most types.

CARDING. From a quality standpoint, the revolving-flat card is superior to any known type of card, particularly on 100% rayon types. Contrary to popular belief, this card is satisfactory for both viscose and acetate, running staple of 1.0 den., $1\frac{9}{16}$ in.; 1.0 den., $1\frac{7}{8}$ in.; 1.25 den., $1\frac{7}{8}$ in.; 3.0 den. and 5.5 den., in all available lengths up to and including 3 in.

With the exception of the very fine deniers, all types of rayon staple can be carded at production rates equal to or higher than those used for cotton. The fine deniers require slower carding in order to minimize neps in the card sliver. The production rates for these fine deniers vary; but if the yarns to be spun are fine, 60/1 and up, the production should be held to below 5 lb. per hr. Viscose, in blends with acetate staple, wool, nubs, etc., often requires lower production rates for most efficient handling. This will, of course, vary with the type blend and the use for which the blend is intended and can only be determined by actual practice.

Card clothing as supplied on the revolving-flat-top card, usually 110's fillet for cylinder and 120's fillet for doffer and flats, has proven satisfactory for most types of rayon and rayon blends. However, the trend toward coarser deniers and longer lengths has caused the coarser fillet to be used considerably. For more efficient handling of these coarser staples, cards are being clothed with 100's and 110's wire as well as 90's and 100's. Wire as fine as 120's and 130's has been used very successfully on deniers as fine as 1.0; and if these deniers are to be run in volume, this finer clothing is superior to even the 110's and 120's type. Where the bulk of the production is to be 3.0 den. in combination with wool, acetate, and other fibers, the card will stand up better and take more punishment if 100's or 110's wire are used. Only where very coarse fibers are to be used or where high-percentage wool blends are to be run should 90's or 100's be used.

When rayon-staple fiber was first used in large quantities in this country, it was the concensus that the cards should be set in such a way that the removal of waste would be negligible in amount and that the principal function of the card was to convert the lap into sliver form. However, many mills are finding that better results are obtained if the card is set and equipped so that a small amount of waste is removed. Up to the present time, rayon manufacturers have not been found able to produce fiber that is absolutely free of neps. Also, the picking operation increases the amount of neps in the stock; their removal is essential for the production of a clean yarn.

It is advantageous to use specially constructed lickerin wire. This particular type of wire has teeth that have less angle or bite, allowing the fibers to free themselves better, thus facilitating the transfer to the cylinder. This type wire also is very helpful when the lickerin has a tendency to become loaded.

SPEEDS AND SETTINGS. Table III shows lickerin and doffer speeds and feed-plate settings for various deniers and lengths of rayon staple using a cylinder speed of 165 rpm.

When running long staples, as $2\frac{1}{2}$ in., it is advantageous to shorten the front screen by approximately 1 to $1\frac{1}{2}$ in. This is done by taking out two ribs in the center and by dropping the screen toward the center of the card. This prevents the rolling action of the fibers immediately after transfer from the cylinder.

FEED ROLLS. Two types of feed rolls have been used on staple in an effort to prevent plucking or snatching-in. These are the regular fluted roll and the metallic-clothed roll. From a practical standpoint, neither type is superior to the other; but it is recommended that the weight on either type be increased at least 50% in order to prevent plucking-in. Of course, the obvious way to correct

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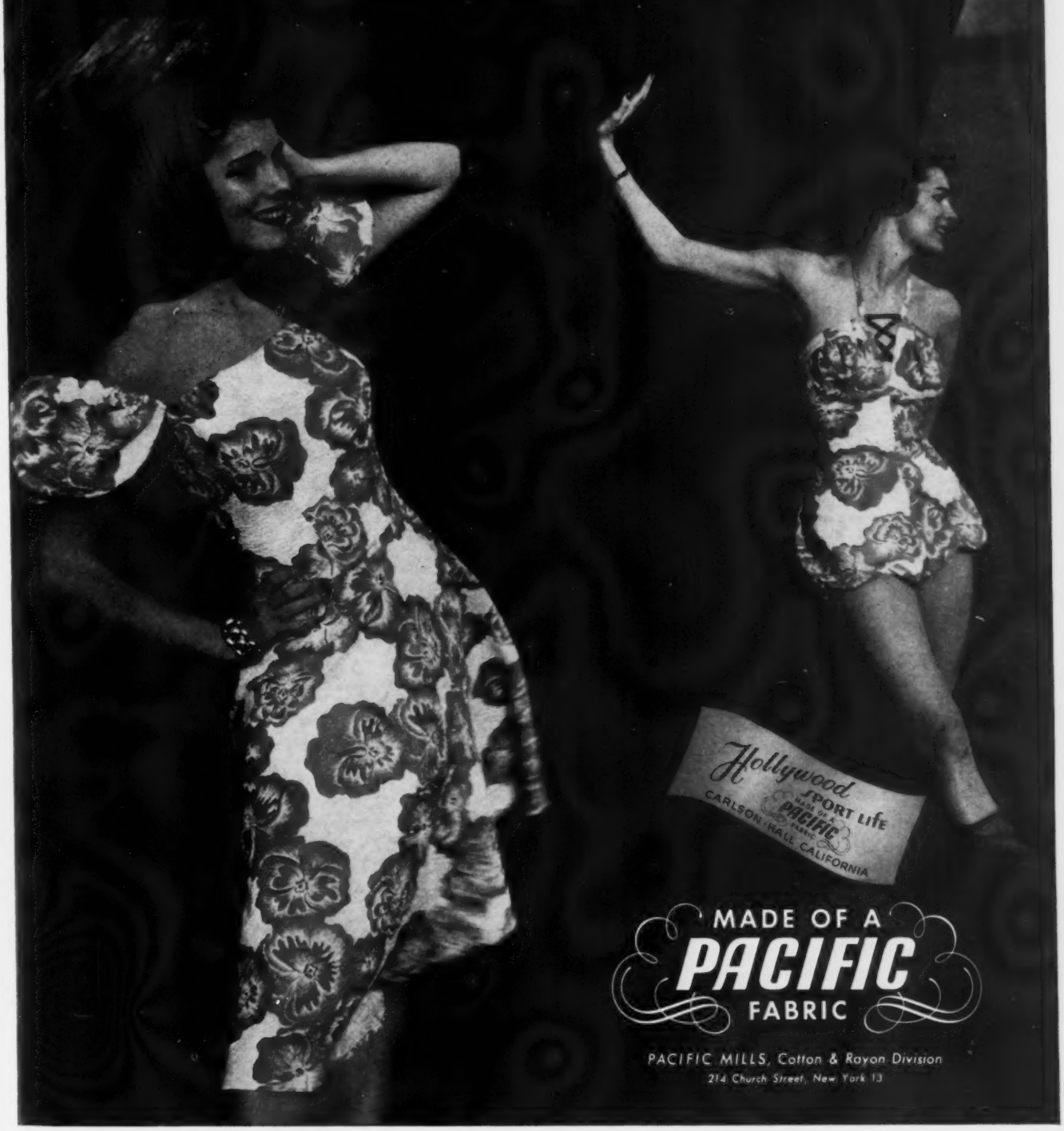

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this difficulty is to produce laps that are uniform and free of lumps.

With the exception of feed-plate and stripper-plate settings, it is perfectly satisfactory to set the card using cotton standards. The stripper-plate settings must be adjusted according to the weight of strip taken out.

Three types of feeds have been used; these are known as single lap, double lap, and Bramwell Automatic Feeder. It has been shown conclusively that Bramwell feeds are not satisfactory on the cotton system because of the lack of uniformity of the resulting product. Double-lap feeds are still in the experimental stage. Therefore, the most common type of feed is the standard single-lap feed that is used on practically all of the cards for rayon staple as well as cotton.

Some types of rayon staple will have a tendency to have a sagging web due to the slickness of the fiber. This can be overcome by raising the doffer comb or, preferably, by changing the calender-roll gear so that the speed of the calender roll is increased. It must be pointed out that too much tension should not be put on the web or sliver, since rayon can be stretched just as easily as cotton. Spring tensions on the calender roll can be used if there is no indication of a core in the sliver. This, of course, permits longer periods between doffing as well as more compact sliver.

Stripping time depends on the type of fiber being run. For the fine deniers, where the stock is to be spun into fine yarns, it is obviously necessary to strip more often than for the coarse deniers. In other words, the common practice is to strip every 4 hr. when fine deniers such as 1.0, 1.25, and 1.5 are run, and every 8 hr. or more when 3.0-den. types are run. Generally speaking, using 100's and 110's clothing, rayon-and-wool blends will have to be stripped fairly often too.

ROLLER-TOP CARDS. In recent years, both Whitin and Saco-Lowell have developed cards for staple-rayon processing which have workers and strippers in place of the regular flats. Both are equipped with double coiler heads and, in most cases, double-lap feeds for high production.

The particular advantage of this type card seems to be in its ability to blend better because of the action of the workers and strippers constantly removing and returning stock from and to the cylinder. Very high productions from 10 to 30 lb. are claimed for these cards; but on the higher productions, the quality is lowered.

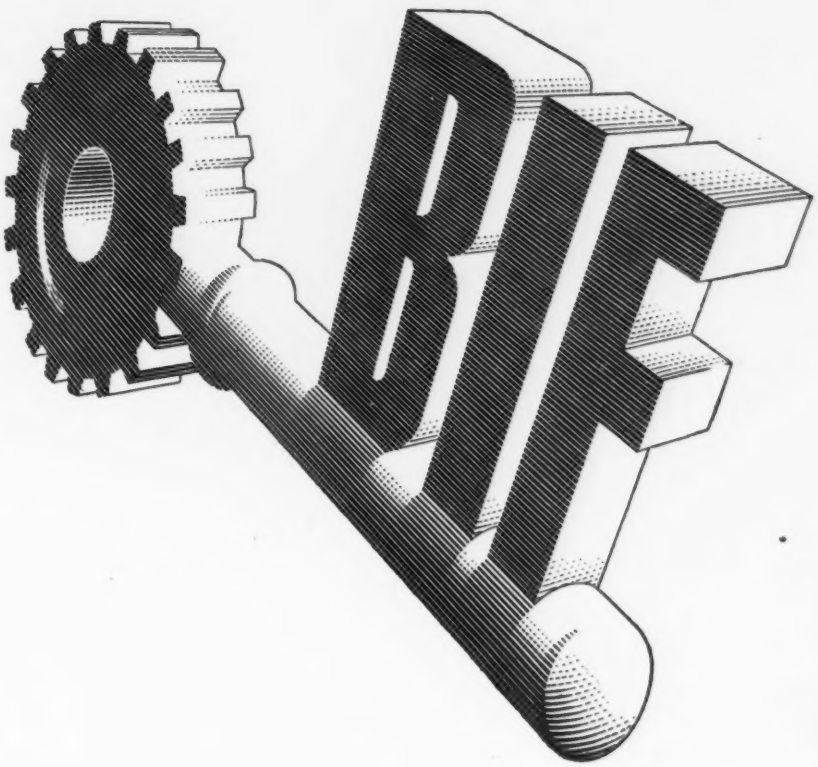
Roller-top cards seem to be more ideally suited for rayon and wool blends than other stocks since they are equipped with coarse clothing workers, strippers, and fancy rolls. They are not suitable in their present state of development for carding 1.0-, 1.25-, and 1.5-den. staple.

TABLE III

Denier	Length in in.	Lickerin speed—rpm.	Doffer speed—rpm.	Feed plate settings—in.
0.75	1 3/8	165	4	0.022
0.75	1 9/16	165	4	0.034
1.0	1 9/16	165	5	0.034
1.0	1 7/8	165	4	0.034
1.25	1 9/16	165	6	0.034
1.25	1 7/8	165	5	0.034
1.5	1 9/16	371	10	0.017
1.5	2	165	8	0.034
1.5	3	120	4	0.068
3.0	1 9/16	371	12	0.017
3.0	2	371	10	0.034
3.0	2 1/2	165	8	0.068
3.0	3	120	6	0.068
5.5	1 9/16	371	12	0.017
5.5	2	371	10	0.034
5.5	2 1/2	165	10	0.034
5.5	3	165	8	0.068
8.0	2	371	10	0.034
8.0	2 1/2	165	8	0.068
8.0	3	165	0	0.068

LONDON and BIRMINGHAM

BRITISH INDUSTRIES FAIR



1948

MAY 3-14

ON May 3rd 1948, when the British Industries Fair opens, buyers from all over the world will have an opportunity of inspecting the products of 3,000 United Kingdom manufacturers.

This annual event is the world's largest national trade Fair. Such is its size and importance that you are urged to *come yourself.* You are assured of personal contact with actual manufacturers or sole selling agents and you will find exhibits carefully grouped by trades so that comparisons may be made quickly. Above all you will see new achievements, new methods of manufacture and new ideas all executed with superb craftsmanship.

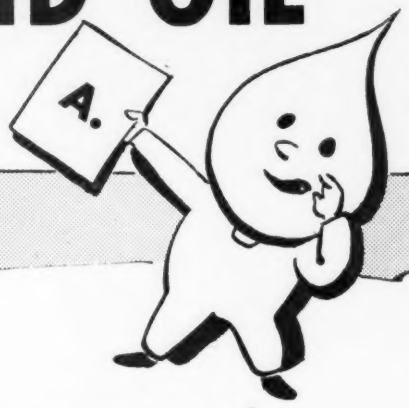
This is your only opportunity in 1948 to review within a few days the achievements of 87 United Kingdom industries.

For information and assistance you should apply to the nearest British Embassy, Legation or Consulate.

Comb Boxes Get Hot and Wear Badly?

CHANGE TO

NON-FLUID OIL



Ordinary lubricants can't prevent wear . . . they won't stay in comb boxes. Cards lose adjustment due to play in the worn bearings and uneven sliver gives you trouble right through the mill. NON-FLUID OIL prevents wear and protects card adjustments because it stays in bearings.

Write for bulletin T5 and free, testing sample of NON-FLUID OIL.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture.

NEW YORK AND NEW JERSEY LUBRICANT CO.

292 Madison Avenue · New York 17, N. Y.

Southern District Manager: **FALLS L. THOMASON, Charlotte, N. C.**

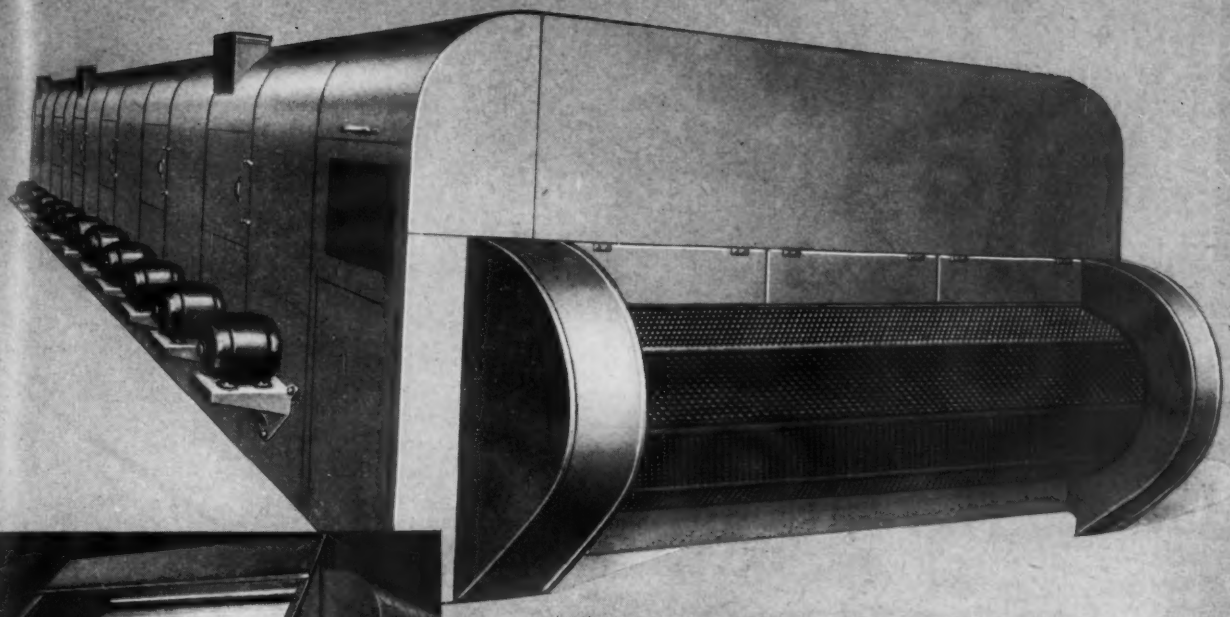
WORKS: Newark, N. J.—WAREHOUSES: Charlotte, N. C., Greenville, S. C., Atlanta, Ga., Providence, R. I., Detroit, Mich., Chicago, Ill., St. Louis, Mo.

NON-FLUID OIL

TRADE MARK REGISTERED

SARGENT'S STOCK DRYER

MODERN—AUTOMATIC



The new, Fisher Type Rotary Feed which has replaced the conventional spiked Apron Type Feeder

for Drying Wool, Cotton, Rayon, Other Synthetic Fibres, Rags

The Sargent Automatic Stock Dryer meets all modern requirements of textile mills for fast, trouble-free production, at minimum cost.

Its high-velocity, pressure-type fans are directly connected to standard frame, ball-bearing motors. The machine is vibration-free. Stock is carried on the Conveyor of heavy-gauge steel sectional flights which are built to specifications for the type of work required. The Conveyor presents a constantly smooth surface, traveling on a variable-speed, covered chain drive. Some of its other features include: highly efficient heating coils; low steam consumption; heavily insulated removable hinged panels for easy inspection of work in travel; thermostatic controls; ease of cleaning; a minimum of maintenance cost.

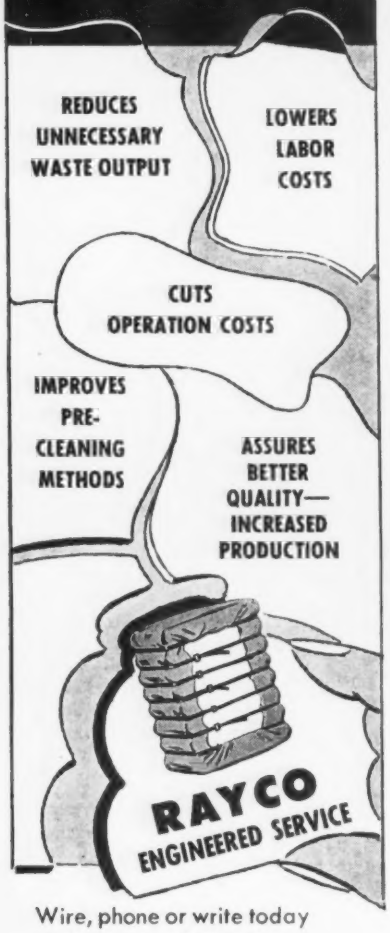
The machine's streamlined design affording a maximum area of drying surface, requires unusually small floor space for the volume of its high production.

Please write us for complete details.

C. G. SARGENT'S SONS CORPORATION

GRANITEVILLE, MASSACHUSETTS, U.S.A.

RAYCO
Engineered Service Solves Your Waste Problems



Wire, phone or write today and arrange for a Rayco Waste Survey in your mill. Our fiber specialists are always at your service.

The RAILWAY SUPPLY & MFG. CO. and Affiliates

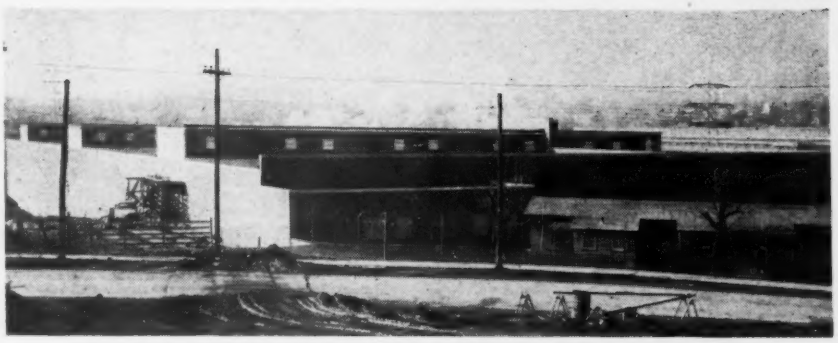
Specialists in Grading, Marketing and Processing Cotton and Synthetic Fibers

General Offices: CINCINNATI, OHIO

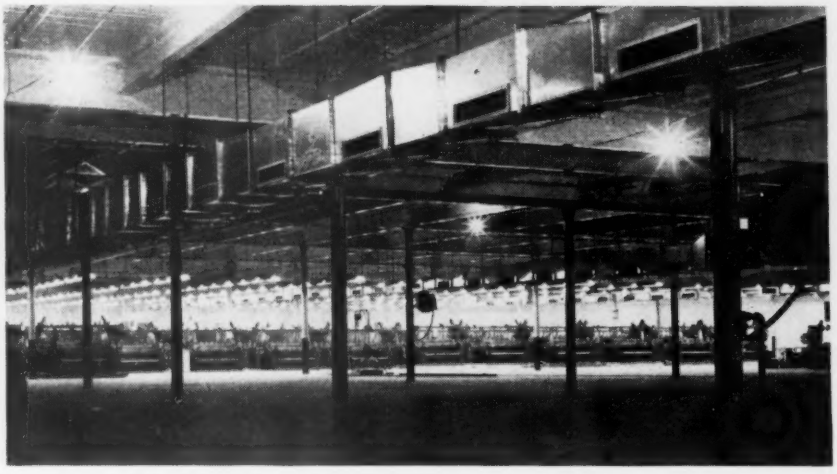
Plants and Sales Offices:

Cincinnati, Ohio • Franklin, Ohio • Atlanta, Ga. • Charlotte, N. C. • Covington, Tenn. • Greensboro, N. C. • Memphis, Tenn. • New York, N. Y. • Chicago, Ill. • Detroit, Mich. • Dallas, Texas

RAYCO *for* **COTTON AND SYNTHETIC FIBERS**



The new spun-rayon plant of Revolution Cotton Mills covers more than an acre and a half of land.



The air-conditioned and insulated weave room will contain 360 looms mounted on maple flooring.

Revolution Completes SPUN-RAYON *Weaving Unit*

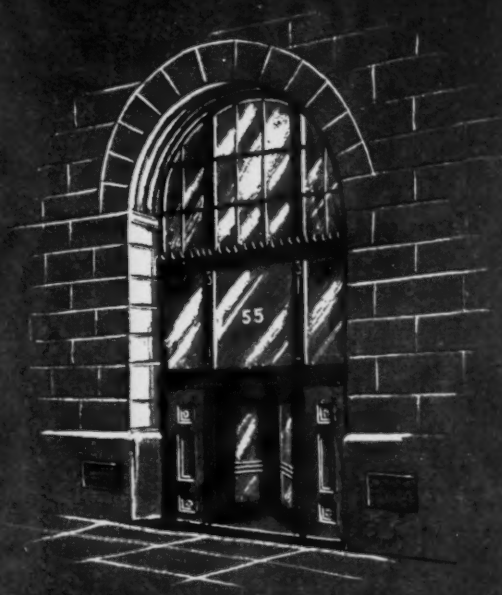
THE RECENTLY COMPLETED spun-rayon weaving unit of Revolution Cotton Mills, Greensboro, N. C., has added 140,000 square feet to the Cone textile interests. The plant is a modernistic, completely air-conditioned one-story structure, 410 x 153 ft., with a basement beneath three-quarters of the building. Maple flooring, glazed-tile walls, fluorescent lighting, foam-glass wall insulation are some of the construction features. Overhead is a steel-frame roof with wood planking, insulated with a thickness of cork.

Equipment in the plant will consist of 360 dobby looms, 150 of which are box looms; and warping, slashing, quilling equipment. Spun-rayon yarn will be supplied by the Cone plant that is located at Randleman, N. C.

Built into the new plant is the system [TW, Sept. '47, p.292] by which cloth from the loom passes through floor slots to the basement where it is inspected and rolled into large rolls on V-frames.

Laying the cornerstone of the new mill are Herman Cone, left, president of Proximity Mfg. Co., and Marion Heiss, president of Revolution Cotton Mills.

The plant was constructed by C. M. Guest & Sons, builders, Greensboro, N. C.; and J. E. Sirrine Co., Greenville, S. C. was the architect and engineer.



TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

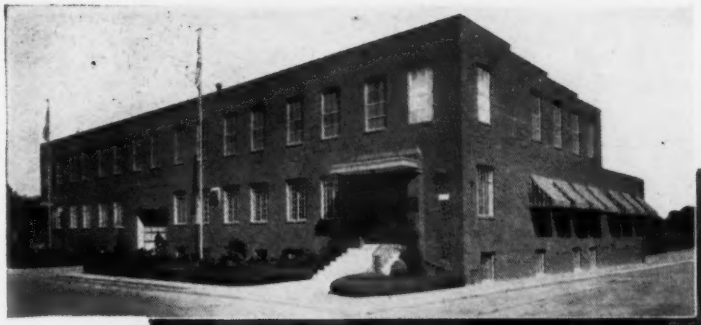
55 MADISON AVENUE • NEW YORK

Many cotton mills have found it profitable to consult Corn Products textile laboratory at Greenville, South Carolina.

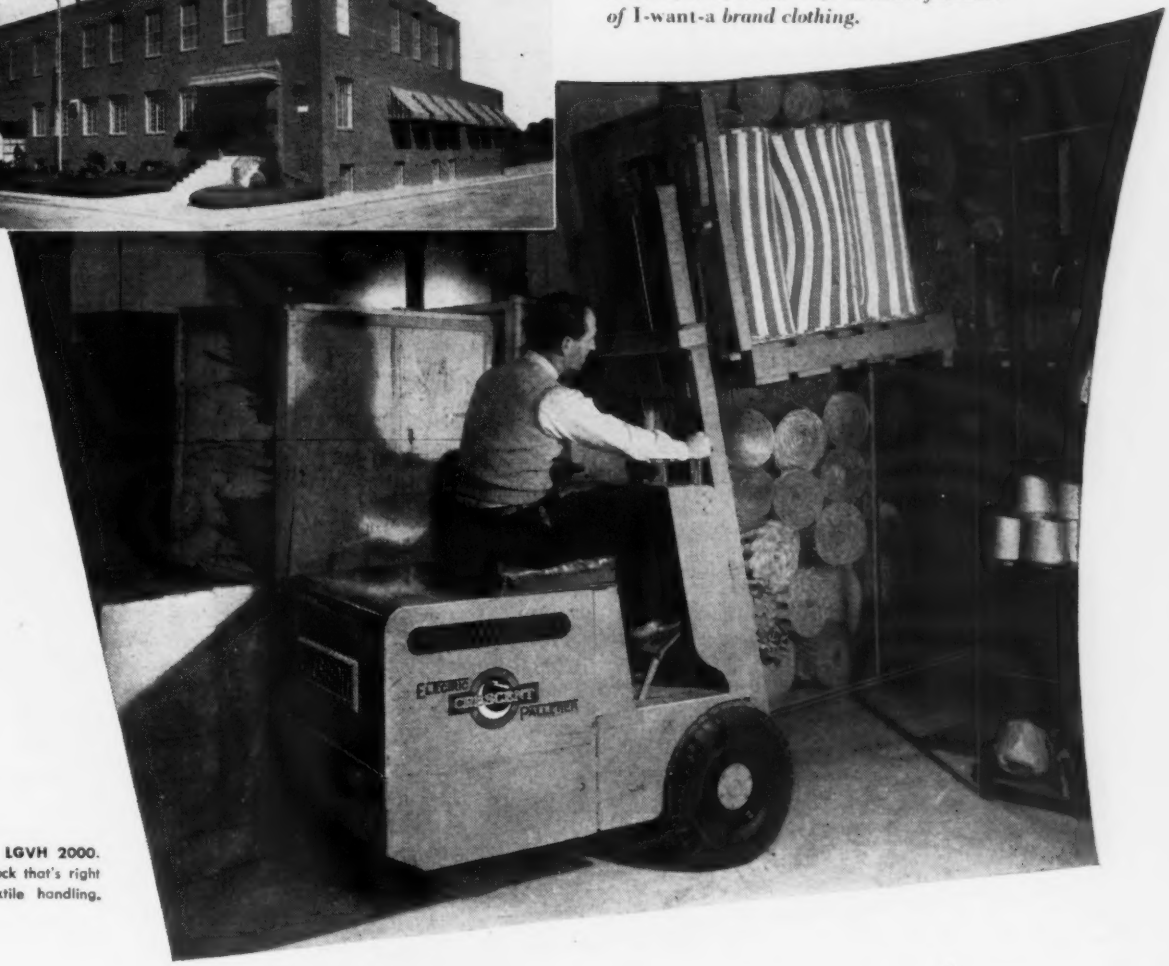
The services of our technicians are offered textile manufacturers without obligation.

CORN PRODUCTS SALES COMPANY

Greenville, S. C. • Greensboro, N. C. • Atlanta, Ga.



Main office and factory of Wm. H. Noggle & Sons, Inc., Manheim, Pa. Manufacturers of I-want-a *brand clothing.*



Model LGVH 2000. The truck that's right for textile handling.

QUALITY IS *Planned*

PRICES ARE *Engineered*

The popular prices of I-WANT-A brand, kiddies' wash garments, do not "just happen."

In cutting and finishing departments, production methods follow exacting standards to hold costs to a minimum.

But this heads-up organization went beyond the usual surface checking and came up with an additional saving. They've made their receiving and warehousing operation *a one man show.*

There's no more manhandling of bulky, weighty bales or gang stacking of huge cases. All this is done carefully, quickly, and economically with a Crescent Electric PALLETIER and one operator.

There are no sparks to create a fire hazard. Stocks are easily accessible, stacked right up to ceiling height. Seasonal rush shipments are taken in stride.

If you have the job of juggling costs to meet competitive price conditions, write our engineering department today.

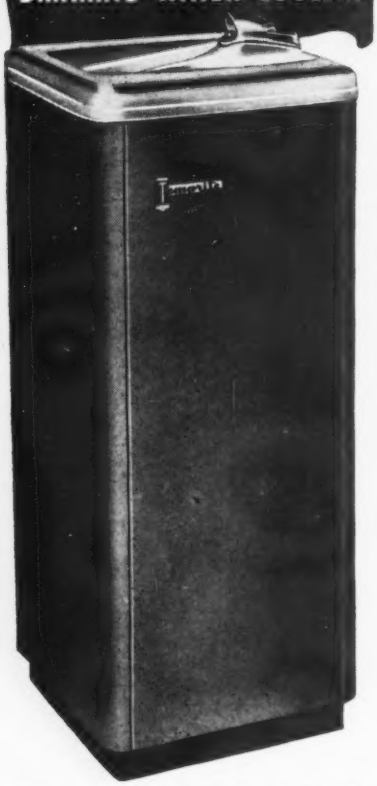
Crescent

Truck Company, 1145 Willow St., Lebanon, Pa.

INDUSTRIAL TRUCK & TRACTOR SPECIALISTS SINCE 1917

SMART

STREAMLINED STYLING in the New TEMPRITE DRINKING WATER COOLERS



1. Smart, streamlined styling blends harmoniously into all surroundings. 2. Effortless finger-tip pressure produces a steady stream of perfect-temperature drinking water. 3. No spouting, no splashing, no annoying fluctuations in water flow. 4. Bubbler design gives maximum sanitary protection.

User Protected by Temprite's 5-Year Warranty Plan

All models meet requirements of the National Bureau of Standards and Underwriters Laboratories, Inc.

Write for name of distributor in your neighborhood.

Manufacturers of water cooling equipment since 1929.

TEMPRITE PRODUCTS CORP.

37 PIQUETTE AVE. DETROIT 2, MICH.

Useful Accessories FOR TEXTILE MILLS

Pneumatic Transmitter

A new transmitter, Model 42, announced by Foxboro Co., Foxboro, Mass., is designed for use in the pneumatic transmission of industrial-process measurements such as flow, static or differential pressure-liquid level, temperature, or humidity. It is an indicator-type instrument, available with either an eccentric or concentric scale, both designed for quick and easy reading. A new transmitting element is said to be exactly duplicated in the receiving instrument, thus the transmitting and receiving mechanisms should be exactly matched and perfectly linear in calibration.

Heavy-Duty Arc Welders

A new line of General Electric heavy-duty single-operator d.c. arc-welding machines, Type WD-40 series, have been designed for improved welding characteristics and a 50% saving in over-all size and weight. Operating at 3500 rpm., the new welders are available in 200-, 300-, and 400-amp. NEMA ratings. The arc is said to be easily established and maintained with the new welders because more than full-arc voltage is generated instantly after short circuit, thereby largely eliminating arc pop-out. Reduction of excessive weld spatter is claimed because current peaks are adjusted for best performance on any setting. New single-dial, dual control is designed to combine flexibility and precision of dual control, both broad and precise, with the convenience of single-dial control.

Explosion-Proof pH Meter

The Macbeth Corp., 227 W. 17th St., New York 11, N. Y., has announced a new explosion-proof line-operated direct-reading, continuous-indicating pH meter. The instrument is said to be designed in accordance with Class 1, Group D, requirements for use in atmospheres containing gasoline, petroleum, ethyl alcohol, and acetone. It is provided with a connection for operating a recorder at a remote position.

Axial-Flow Pressure Fans

A new line of axial-flow pressure fans announced by Sturtevant Div. of Westinghouse Electric Corp., Hyde Park, Mass., is offered in two basic types—a straight-through type or a convertible-elbow type. Either a 3-bladed aluminum-alloy wheel or an 8-bladed steel wheel is available. Designed for either vertical or horizontal operation, they are furnished in sizes from 18 to 72 in., static pressures from 0 to 3 in., and displacement from 2,000 to 115,000 cfm.

Glass-Electrode pH Meter

A new Beckman portable glass-electrode pH meter developed by National Technical Laboratories, 820 Mission St., S. Pasadena, Cal., operates on a standard 110-v., 50/60-cycle, a.c. line. The Model H covers the full pH scale from 0 to 14, is said to be accurate to 0.03 pH units and 2 millivolts. A built-in temperature compensator can be set at the temperature of the test sample, it is claimed. Size is 12x9½x8½ in.; weight is 19 lb.

Dust Collector

The Mikro-Collector, a dust collector manufactured by Pulverizing Machinery Co., 268 Chatham Rd., Summit, N. J., utilizes hard-pressed wool felt as a filter medium. Clogging of pores in the felt is prevented by use of a hollow, annular blow-ring which is said to hug and flex a cylindrical felt bag while moving up and down its outer surface by means of a chain-and-sprocket drive. It is claimed that this keeps the filter surface 100% available. Rates of filtering range from 8 to over 30 cu. ft. of filter surface per min.

Hydraulic Variable-Speed Transmission

Vickers Inc., 1588 Oakman Blvd., Detroit, Mich., has announced the development of a variable-speed hydraulic transmission for fractional-horsepower machinery drives. Features of the transmission are said to include smooth and stepless speed adjustment from zero to maximum output rpm. in either direction of rotation. The TR2-R13F13 transmission is rated at ½ hp., continuous duty. Fingertip speed adjustment over the complete range by either handwheel or servo control is claimed.

Variable-Pitch Sheave

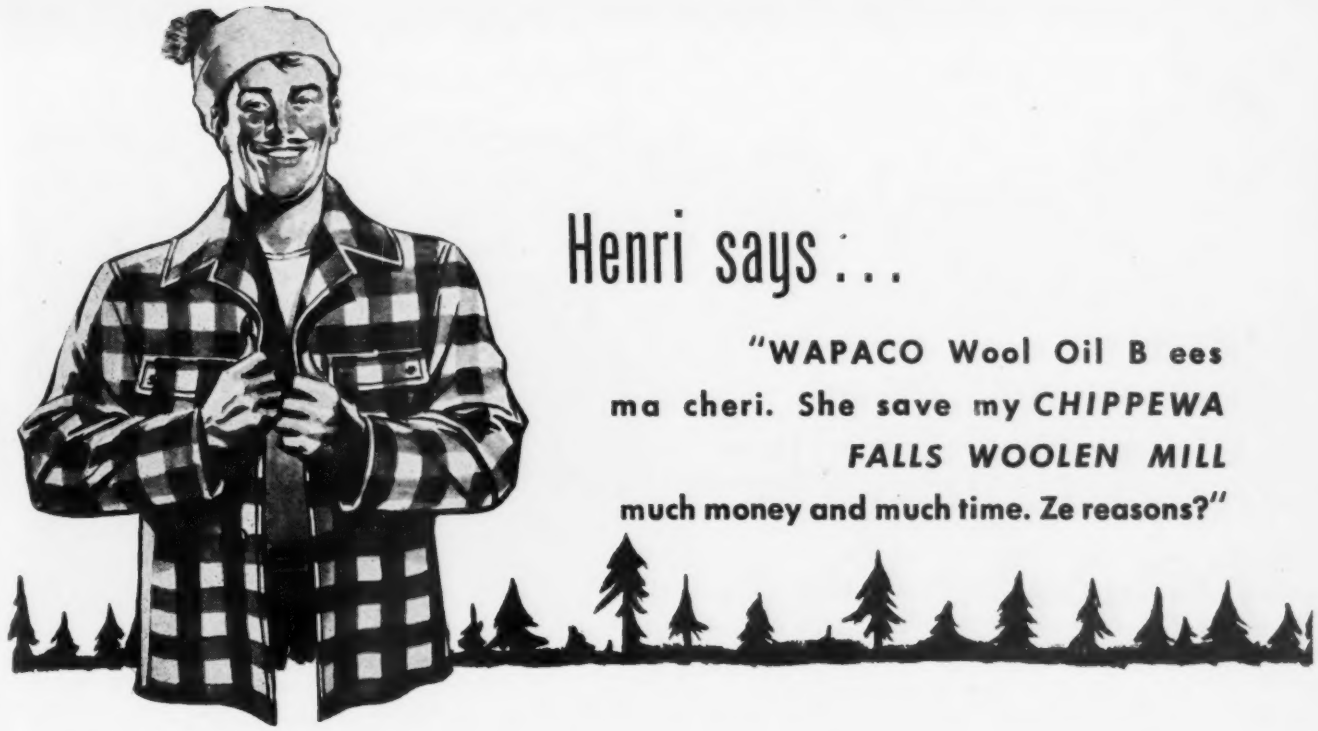
A steel, fractional-horsepower, variable-pitch sheave designed to provide finer adjustment through use of 20 threads instead of the customary 16 has been announced by Dodge Mfg. Corp., Mishawaka, Ind. This sheave is made in the following pitch diameters:

Using No. 2 FHP Belts	Using No. 3 FHP Belts
1.9 to 2.9 in.	2.4 to 3.2 in.
2.4 to 3.4 in.	2.7 to 3.7 in.
2.8 to 3.8 in.	3.1 to 4.1 in.
3.4 to 4.4 in.	3.7 to 4.7 in.

All sizes of sheaves are available in three standard bores, namely, ½ in., ⅝ in. and ¾ in.

Stitcher for Shipping Boxes

A new line of stitchers for use in box making, packaging, assembling, and ticketing is now being marketed by A. J. Gerrard & Co. The stitchers are designed to handle a wide range of wire sizes, and insert 150 to 350 staples per minute. A micro-switch attachment



Henri says . . .

"WAPACO Wool Oil B ees ma cheri. She save my *CHIPPEWA FALLS WOOLEN MILL* much money and much time. Ze reasons?"

WAPACO WOOL OIL B:

1. Gives us CONTINUAL HIGH YIELDS OFF CARD.
2. Eliminates GUMMING of Card Wire and Pitting.
3. Assures SCOURABILITY . . . using less soap and doing a superior job.
4. Allows EXACT ESTIMATE OF PRODUCTION. We process 1500-2500 pounds without stripping cards.
5. Eliminates OXIDATION.
6. Can BE LEFT AROUND INDEFINITELY IN THE GREASE.
7. Produces LESS ENDS DOWN AT THE RUB APRON . . . for more uniformity.
8. PENETRATES . . . does not lie on the surface.
9. MIXES IN HARDEST OF WATERS . . . hot or cold.
10. Allows FIRST BREAKER TO STRIP AS EASILY AS FINISHING BREAKER. Also will strip to base of the wire on all breakers, doffers, workers and strippers.

A *Watson-Park* DEMONSTRATOR WILL BE GLAD TO DISCUSS YOUR PROBLEMS WITH YOU. OR WRITE FOR FURTHER INFORMATION.

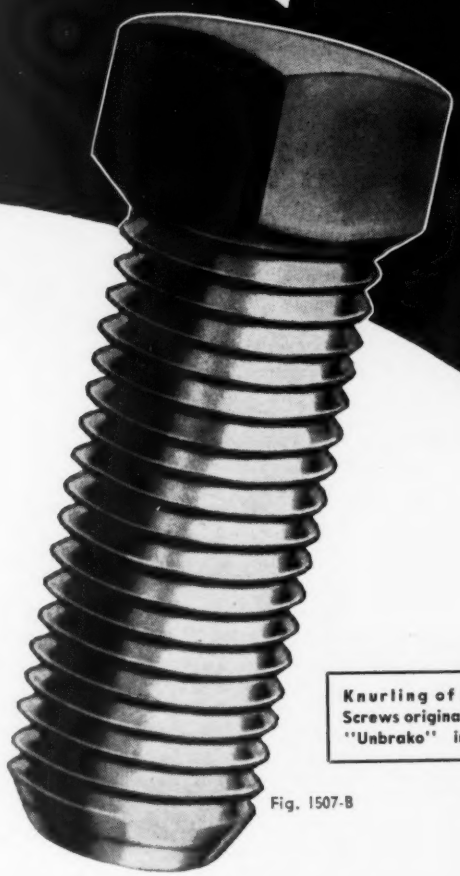
WATSON-PARK COMPANY
261 FRANKLIN STREET BOSTON, MASS.

FACTORY, LOWELL JCT., MASS.

Here's a head that WON'T TWIST OFF!

UNBRAKO

Reg. U. S. Pat. Off.



Knurling of Socket Screws originated with "Unbrako" in 1934.

Fig. 1507-B

SQUARE HEAD SET SCREWS

Made of a special alloy steel, the UNBRAKO "Won't Twist Off" Square Head Set Screw is actually a "brute" for *strength*. It is practically *impossible* to twist the head off an "Unbrako" Set Screw . . . thus, reducing cost of maintenance materially . . . *because*, if and when an "old style" square head set screw does twist off, — considerable expense is incurred in these days of high production costs, just to get it out — especially, if it's in an awkward place!

Ask for *your* copy of the "Unbrako" Catalog of Screw Products.

"Unbrako" and "Hallowell" Products are sold entirely through Industrial Distributors.

"UNBRAKO" SOCKET SET SCREW WITH KNURLED CUP POINT

Pat'd and Pat's Pend.

The knurled Cup Point of the "Unbrako" Socket Set Screw makes it a Self-Locker — the point digs in and holds fast, even when subjected to the most chattering vibration.

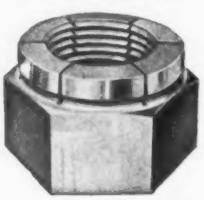
"UNBRAKO" SOCKET SET SCREW WITH KNURLED THREADS

Pat'd and Pat's Pend.

The knurled threads of this "Unbrako" Socket Set Screw makes it a Self-Locker, too, for use where the point does not lend itself to knurling.

"FLEXLOC" SELF-LOCKING NUTS

Pat'd and Pat's Pend.



The All-Metal, One-Piece "Flexloc" is a Self-Locking Nut that won't budge, except when a wrench is used. Every thread—takes its share of the load and being a "stop" nut it will stay locked in any position on a threaded member — "a real fastener", if ever there was one. Free samples.

"HALLOWELL" KEY KIT

Kits. Pat. Pend.

You can't tighten or loosen socket screws without a hex socket wrench, so why not get our No. 25 or No. 50 "Hallowell" Hollow Handle Key Kit which contains most all hex bits.

OVER 45 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA., BOX 371 • BRANCHES: BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

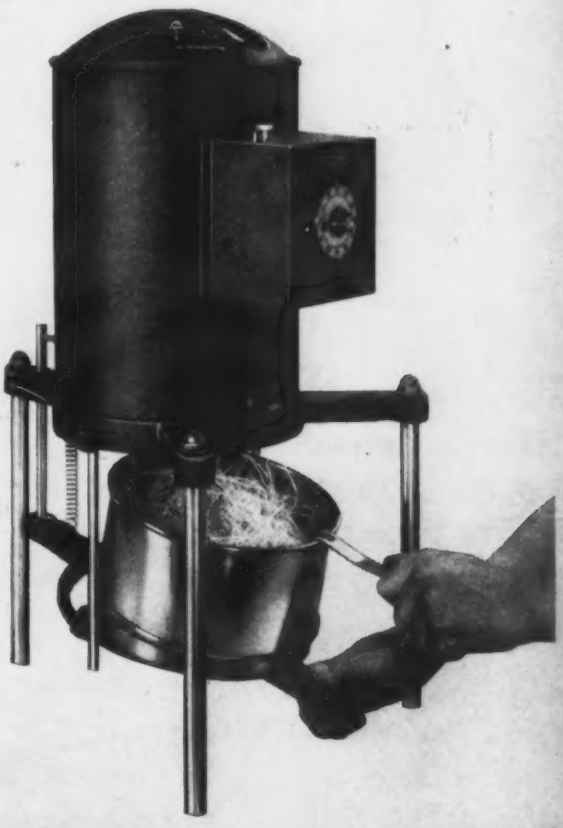
FLASH-DRY SAMPLES TO DETERMINE MOISTURE CONTENT

A complete line of Dietert-Detroit Moisture Tellers is available for the rapid, accurate moisture determination of such substances as chemicals, foods, fabrics, grains, sands, fuels, clays, semiliquids and others.

Model 275 is designed for materials not sensitive to drying temperatures. It has a drying pan 5" in diameter holding up to 100 gram samples.

Model 275T is used for all substances, the testing of which requires precise temperature control. It may be used as a flash drying oven for liquids or small samples.

Model 278T is used for bulky samples up to 500 grams. It is ideal for handling a large number of liquid samples and for drying materials in the wet screen analysis. The pans are 8" in diameter and may be from 1" to 4" in depth.



Write for descriptive folder and prices.

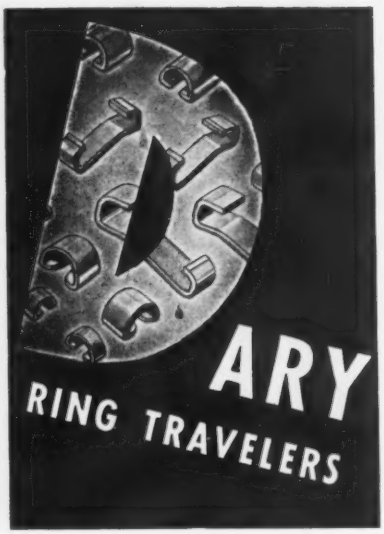
2897

CONTROL

HARRY W. DIETERT CO.

9330 ROSELAWN AVE., DETROIT 4, MICHIGAN

SAND • MOLD • MOISTURE • SULFUR • CARBON



The Heart of Your Spinning!

The tiny traveler is the heart of your spinning and twisting, probably the one item most essential to successful spinning. That is why its quality manufacture is so important, and consistent achievement of this quality is why DARY is tops in ring travelers.

DARY Ring Travelers are processed for absolute uniformity and balance, and a hard, smooth finish. They last longer and perform better around the ring.

See your friendly Dary Representative for the whole story of Dary Dependability. For better results look to the heart of your spinning and twisting and specify Dary Ring Travelers.

PROCESSED
SYMBOL OF SUPERIORITY

The DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
H. REID LOCKMAN, BOX 515, SPARTANBURG, S. C.

automatically controls spacing between stitches. One Steelbinder stitcher can seal the top, side, and bottom of a carton and can close the top of a filled carton, the manufacturer states. It can be inserted in the production line to close cartons automatically as they come off the conveyor.

Self-Contained Water-Cooler

A self-contained 10-gal.-capacity drinking-water cooler with a stainless-steel top and automatic water-flow regulator is being manufactured by Temprite Products Corp., 47 Piquette Ave., Detroit 2, Mich. The cooler is designed to prevent the user's lips from contacting the water nozzle and to permit waste water to fall only into the basin, not on the nozzle.

Ultrasonic Generator

A table instrument for a generation of up to 500 watts of ultrasonic mechanical vibrations, consisting of a radio-frequency generating unit and an oil-bath jar, has been developed by Fisher Scientific Co., 717 Forbes St., Pittsburgh, Pa. The Ultra-Sonorator operates on 115-v., 60-cycle current.

Temperature and Humidity Laboratory Unit

A self-contained laboratory unit for testing at any desired temperature from 20 to 200° F. and at humidity controlled above or below ambient at a minimum wet-bulb temperature of 33° F. has been announced by Jenney Engineering Co., 26 Ave. B, Newark 5, N. J. The copper- or stainless-steel-lined working chamber has a clear space 18x18x18 in. Maximum rate of temperature change is said to be 20° F. per minute, and temperature can be maintained within ±2° F., it is claimed. Conditioning equipment, consisting of a heating unit, vaporizer humidifier, and ½-hp. compressor, is mounted beneath the working space and operates on 115-v., 60-cycle, single-phase current.

Hand-Facing Alloy for Metallizing

Metco-Weld H, a metallizing wire composed of a powdered hard-facing alloy extruded with a plastic binder has been announced by Metallizing Engineering Co., Long Island City, N. Y. The coating is said to outwear hardened steel 3 to 10 times, resist corrosion better than stainless steel under most conditions.

Double-Width Sealed Bearing

A wide type of Plya-Seal ball bearing which incorporates a single row of balls in a housing as wide as that of the standard double-row bearing has been announced by Fafnir Bearing Co., New Britain, Conn. Sealed on both sides for retention of lubricant and exclusion of foreign material, the new bearing is said to contain a supply of factory-packed grease ample for years of operation. Bore sizes from 20 to 70 mm. are available.

Flow-Rate Slide Rule

The Flow-Rule, a specially designed 12-in. slide rule for computing orifice-plate bores, flow nozzles, Venturi throats, rate of flow, differential created across the orifice plate, etc., is available from Foxboro Co., Foxboro, Mass. Applicable for all fluids over a wide range of flows and line sizes, the rule is said to be invaluable for checking calculations, although not intended to replace computation methods where purchase and sale of fluids is involved.

Humidity-Sensing Element

A humidity-sensing element said to retain an accuracy of ±1½% r.h. for at least 1 yr. over a range of 7 to 100% r.h. has been developed by American Instrument Co., Silver Spring, Md. Only 3½ in. high and 3¼ in. in diameter, the unit is said to respond to changes in r.h. within one sec., to detect changes as small as 0.1%, to remove no significant amount of moisture in measuring, to be unaffected by barometric pressures, and to be applicable to indication, recording, and control.

Hoist for Heavy Loads

A small, portable hoist-jack with a rated capacity of 2,000 lb., but which weighs only 23 lb. complete (stand, hoist, handle) has been announced by Coffing Hoist Co., Danville, Ill. The hoist is of ratchet-and-pawl construction and has a handle designed to bend at maximum overload before reaching the breaking point of the chains or bending point of the hooks.

Adjustable-Speed Motors

A new line of Tri-Clad brush-shifting adjustable-speed induction motors, Type ACA, has been announced by the Motor Div. of the General Electric Co., Schenectady, N. Y. Available in ratings from 3 to 50 hp. (220, 440, and 550 v.), the new motor features stepless speed adjustment over a 3:1 ratio by simply turning a dial. The entire unit, with the exception of the starter control, is self-contained in a housing only a little larger than that for a constant-speed motor of comparable rating.

Bronze Gate Valve

A new bronze gate-valve for 200-lb. service, featuring a high-tensile-strength bronze wedge seating against Monel-metal seat rings of a hardness said to be about 2½ times that of valve body bronze, has been announced by Jenkins Bros., 80 White St., New York, N. Y. The valve is available in sizes from ¼ to 2 in.

Zoning Paint

Porcelite traffic-zoning paint, a line-marking paint which is said to adhere to factory floor, street, parking lot, etc., is again available from Thomson Porcelite Paint Co., 829 N. Third St., Philadelphia 23, Pa. The paint is said to hold color and visibility for long periods and to have unusual resistance to stains and scuffing. Drying in 30 min. is claimed, and one coat is said to be sufficient for most applications.

Dust Collector

A self-contained dust collector which can be used to convert a standard pedestal grinder over to a dustless backstand sander-grinder combination has been

NOW—constant yarn tension...

...WITH ANY YARN—

THE *KIDDE* TENSION COMPENSATOR

automatically maintains constant output tension —at any desired value from 15 to 120 grams— regardless of changes in yarn coefficient of friction, input tension, yarn speed, or variations in mill temperature and humidity.

Just set the calibrated dial of the Compensator —lock it in position—and the ball-bearing compensating disc will keep tension constant. In months of actual mill tests on all types of yarns, greatest variation from set tension was only 2 grams!

The *Kidde* Compensator is precision built for accurate, lasting performance. Heat-treated stainless steel balls give friction-free compensation. Guide most subject to wear is made of sapphire. Calibrating tension spring is fatigue-resisting beryllium copper.

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

REPRESENTATIVE APPLICATIONS

of the *Kidde* Tension Compensator include:

1. Filling Winding. Number of shiners and shell-offs is cut down, boosting loom efficiency. More yarn can be wound on bobbin—delicate yarns can be wound at higher speeds.

2. Plying of coarse yarns. Compensator permits magazine creeling—prevents corkscrews or uneven plying.

3. Rubber Warping. Compensator can be set to take out all of the stretch.

MAIL THE COUPON *for full details*

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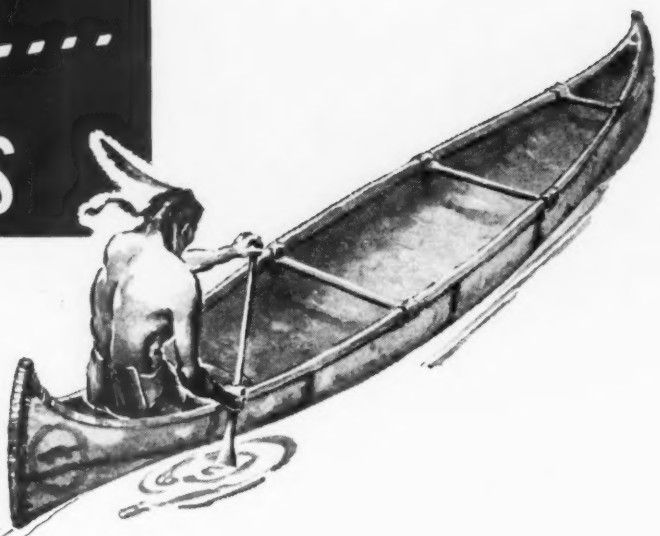
291 Main Street, Belleville 9, N. J.
Gentlemen:
Please send me information on the *Kidde* Tension Compensator.
Name.....
Position.....
Company.....
Street Address.....
City..... Zone No. .... State.....

Walter Kidde & Company, Inc., 291 Main Street, Belleville 9, N. J.

Smoothness in flow control....

POWELL VALVES



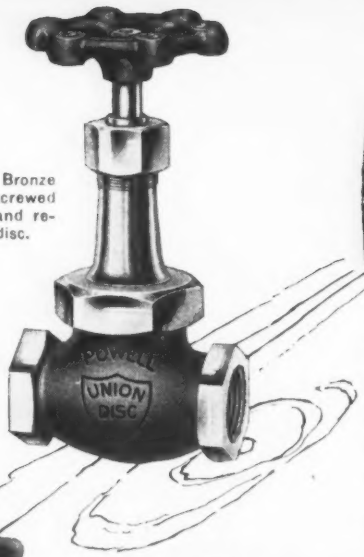


Fig. 150—150-pound Bronze Globe Valve with screwed ends, union bonnet and renewable composition disc.

Like the smooth performance of a birch canoe paddled by an expert on the still waters of a lake—that's the way a Powell Valve operates. For into every valve engineered by Powell go the skills accumulated through more than a century of making valves—and valves only.

Perfection of design, scientific selection of materials, finishing to exacting specifications—all contribute to smooth, dependable performance that insures longer life and reduces maintenance to a minimum.

So when you need valves—either for new installations or for replacements—remember there's a "smooth" Powell Valve for every flow control service in modern industry.

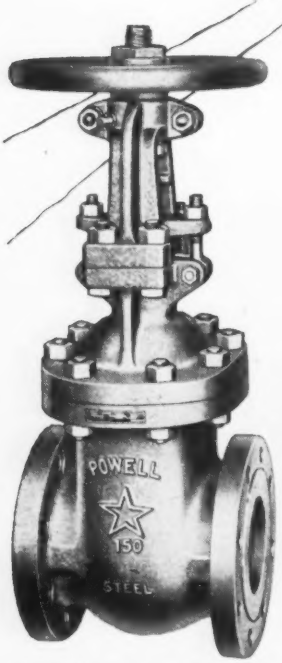


Fig. 1503—Class 150-pound Cast Steel Gate Valve with flanged ends, bolted flanged yoke, outside screw rising stem and taper wedge solid disc.

Fig. 241—Large 125-pound Iron Body Bronze Mounted Globe Valve. Made in sizes 2" to 16", incl. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Also available in All Iron.

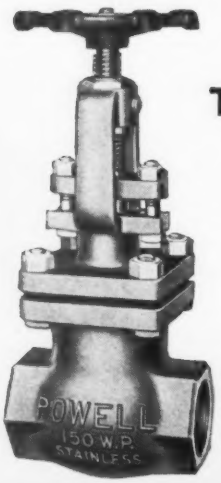


Fig. 1968—150-pound Stainless Steel Gate Valve with screwed ends, outside screw rising stem, bolted flanged yoke bonnet and taper wedge solid disc.

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Cincinnati 22, Ohio
DISTRIBUTORS AND STOCKS
IN ALL PRINCIPAL CITIES

POWELL VALVES

The trend is toward Lanese*

a key fiber in quality men's wear fabrics

When it comes to men's apparel . . . suits, sports jackets, shirts, slacks, robes, shorts, bathing trunks . . . there is an ever increasing demand for fabrics that are made with Celanese Lanese synthetic staple fiber.

Small wonder, for fabrics contdining a daminant proportion of Lanese contribute definite advantages to the appearance of men's clothing . . . they are resistant to wrinkling, hold a crease well, keep their shape, possess a high degree of dimensional stability.

Lanese adds to the versatility of the men's clothing industry by making available a wide variety of weaves and textures suitable for every season of the year . . . by providing an interesting range of color effects through cross dyeing. Furthermore, the low moisture absorption of Lanese discourages the penetration of soil and stain . . . cleaning is never a problem.

It is especially significant that the unique advantages provided by Lanese are available without the need for extensive finishing operations.

Celanese Lanese*

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Speeder and ring spun, all sizes to 14's single and plied. Natural or Dyed.

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CUSTOM PUT-UP
TO YOUR
PARTICULAR
SPECIFICATIONS

Our flexible methods of operation assure your requirements. Tell us your needs and we will meet them promptly.

HYDE PARK MILLS, Inc.
Covington, Tenn.

"SPECIALISTS IN ENGINEERED SERVICE"

announced by Aget-Detroit Co., Main at Washington Sts., Ann Arbor, Mich. No duct work or cutting of wall or ceiling is required, the manufacturer states, as the dust collector has its own motor-driven fan, cyclone separator, and second-stage filter for recirculation of cleaned air back to the working area.

Monel Flexible Tubing

Flexible metallic tubing made from monel metal designed for use where severe corrosion or high temperatures over 300° F. are encountered has been announced by Titeflex, Inc., 431 Frelinghuysen Ave., Newark 5, N. J. Four temperature ranges are available from 358 to 1,758° F., the temperature range depending upon the melting point of the solder used in the seam of the inner core. The tubing can be used in both low- and high-pressure lines.

Limit Switch

For industrial limit-switch applications, Micro Switch of Freeport, Ill., has announced a new type of switch housing with a new design of rotary actuator to provide protection, actuating means, conduit connection, and convenient mounting for the basic switching element enclosed within the housing. The actuator is a rotary-action lever arm with roller, adjustable through 360° with a total travel of 90° in either direction. The housing is sealed except where the actuator shaft enters the housing; however, the long actuator shaft is said to provide protection against dirt, dust, and occasional splash of liquids. Operating force is 4 to 12 oz., release force is 2 oz. minimum, pretravel is 10 to 30°, overtravel is 55° minimum.

Horizontal Mixers

Several types of single- and multiple-arm horizontal mixers and blenders designed to be suitable for mixing and processing a wide range of materials from dry powders to heavy, viscous slurries and pastes have been introduced by H. W. North Co., Erie, Pa. The machines, which are said to be simple in principle, are custom engineered for each individual application for batch, automatic, or continuous operation. The mixers are available in plain- or stainless-steel construction with mixing chambers jacketed, when required, for heating or cooling.

Rubber-Tired Caster

A new aluminum-alloy, rubber-tired caster in both rigid and swivel types has been announced by Aerol Co., 1823 E. Washington Blvd., Los Angeles.

Designed and engineered to give maximum performance with clean, streamlined appearance, the new caster embodies a heavy-duty, shake-proof king pin; labyrinth dirt seal to protect lubricated bearings; extra offset for instant trailing.

Both thrust and king-pin bearings are factory-greased, Timken tapered roller bearings designed to eliminate all axle wear and side-play. All-purpose solid-rubber tires reported to resist oil and water are guaranteed not to separate from the wheel core.

Electric Drill

A new portable drill, No. 24, ¼-in. capacity, suitable for drilling in metal, wood, and composition materials up to its rated capacity has been added to the line of Stanley Electric Tools, New Britain, Conn. Features include an aluminum die-cast housing, durable gears, trigger-type switch with locking device, three-jaw geared threaded Jacobs chuck, positive cord clamp, three-wire rubber-covered cord with spring protector. Length is 8½ in., weight is 3¼ lb.

Electronic Thickness Gage

An instrument for measuring corrosion and wall thickness from one side of metallic surfaces has been announced by the Scott Electroflux Co., Waltham, Mass. Designed for the non-destructive inspection and testing of metallic containers, vessels, and piping while in service, the instrument is said to measure thickness within 3% accuracy. The instrument combines a 4-electrode probe, a small 6-v. battery, an electronic voltmeter, and power supply for measuring the low-voltage output from the probe. Inter-connecting cables permit the probe to be moved about at a distance from the metering equipment. Steel thicknesses from 0.125 to 2.250 in. may be measured.

Circuit Breaker

New quick-lag circuit breakers provided with several refinements, chief of which is a new tripping action that combines the inverse-time-limit characteristics of bimetal thermal action on overloads with the operating speed of magnetic-trip action on short circuits, have been announced by Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30.

Available in single- or double-pole types, 10- to 50-amp. ratings, 125 to 125/250 v. a.c., the new breaker also provides a redesigned de-ion arc chute reported to eliminate the need for a vent screen in the bottom, thereby permitting mounting flush to pan. Other improvements include: a sturdier operating handle, more enclosed than the old; internal design which requires less handle movement; hole in handle to permit more satisfactory method of attaching handle extension for two-pole operation; and smooth, flush surface to eliminate dust traps.

Ball-Bearing Take-Up

A new steel-frame, ball-bearing take-up for conveyor service has been announced by Dodge Mfg. Corp., Mishawaka, Ind. The take-up incorporates the Dodge SC take-up unit consisting of a ball-bearing inner unit enclosed in a cast-iron housing provided with ways on each side for supporting guides. The housing has a hole for receiving the unthreaded end of an adjusting screw.

The take-up has a welded-steel frame designed to afford ample strength and rigidity without excess weight. Adjustment is accomplished by turning the brass capatan-head nut. Adjusting screw is cadmium plated. The take-up is reported to be equally strong in tension or compression

You have life insurance . . .

DO YOU HAVE BRAND NAME INSURANCE?

The American Public is brand name conscious. Millions of dollars are spent annually to establish identified brands with the consumer.

Manufacturers guard the quality behind their brand names jealously. They know they carry an implied guarantee *right into the consumer's home.* They know that unless the quality is maintained the brand names may arouse consumer resistance — instead of consumer acceptance.

Make sure your merchandise measures up to the keen demands of today's competitive market and the standards established by your brand name by undertaking a quality control program with the United States Testing Co., Inc. Here is a complete service for the testing of all textile products . . . *from the ground up.*

Under our special Certified Quality Program, reputable products are put through their paces in a series of scientific tests at our laboratories. If found acceptable, these products are Certified . . . are awarded the Seal of Quality . . . and are constantly check-tested as an added guarantee. They become part of a group of nationally known products of Certified Quality.

The Seal of Quality . . . recognized as a buying guide by women's clubs, consumer groups and shoppers everywhere . . . adds prestige to your brand, lifts it into that "golden circle" of consumer accepted trademarks.

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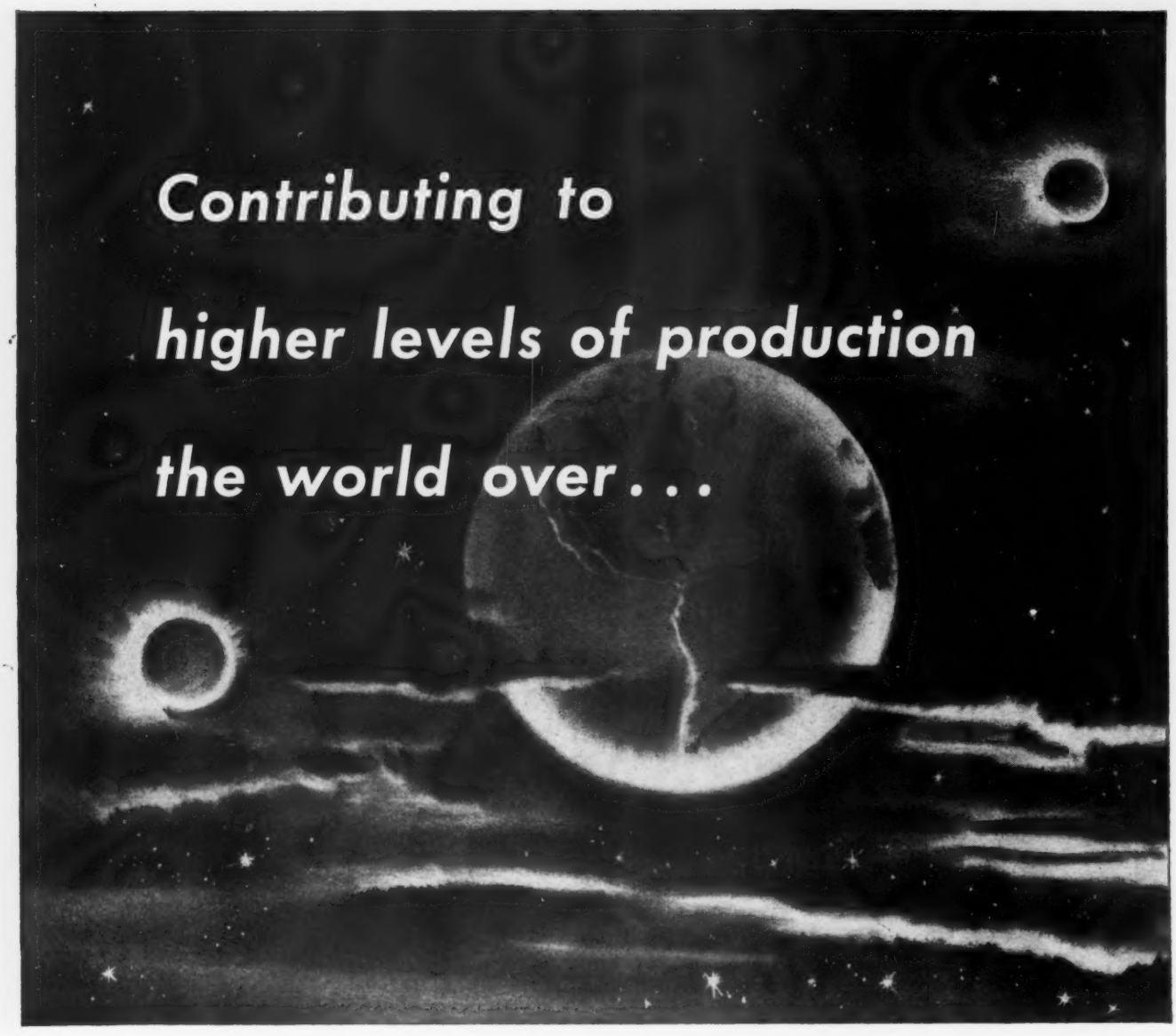

CAMACHINE 9-5, a versatile slitter and rollwinder for fast production of top quality rolls of all types of fabrics, from gauze to heavy weatherstrip. Produces firm, clean-cut rolls up to 24″ rewound diameter. Slits strip as narrow as ½″. Write for illustrated literature.

SWIFT CAMACHINES are singing a song of production in every continent of this world. Side by side with other great products of American engineering skill, Camachines are helping the peoples of all countries to rebuild toward a better life. At home, Camachines are meeting every industrial slitting and roll-winding problem to help boost production to the higher levels which must be achieved in the years ahead. For competent assistance with your roll production problems, consult

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FOR FAST, TOP QUALITY ROLL PRODUCTION

. . . the world over

RAYONIER
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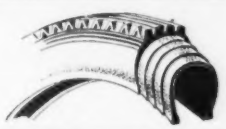
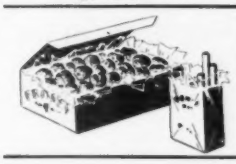
WOOD CELLULOSE ▶ *is dependably uniform*

Rayonier's wood cellulose is supplied in several grades to provide the special characteristics required for manufacture of the various types of products in which cellulose is used.

Quality control in production of these high-alpha grades of cellulose assures the constant purity and uniformity required in making rayon, cellophane, and various cellulose derivatives.

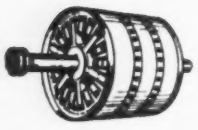
In addition to development of new and improved grades of wood cellulose, one of the principal functions of our research staff is the study of the processing characteristics of our products under conditions similar to those found in our customers' plants.

Principal	Grades of Rayonier Wood Cellulose
	"RAYACETA" is a highly refined wood cellulose developed specially for the production of cellulose acetate rayon. It also is used in the manufacture of acetate films, sheets, and moulding powders for various uses.
	**"RAYOCORD"** wood cellulose is a highly purified product especially suitable for the production of rayon yarns of high tenacity. It is widely used in the manufacture of tire cord rayon and for textile yarns where maximum strength is desired. It is also a good material for the production of saturating papers, vulcanized fiber, and plastics.
	"HICOLOR" is an established grade of purified wood cellulose for the production of viscose rayon yarns of high quality. It is also used successfully as a base material for vulcanized fiber and allied products.
	**"RAYAMO"** is a wood cellulose specially developed for the making of cellophane, used increasingly as a protective covering for fruits, vegetables, cigarettes, candy, and many other types of packaged articles.
	"PURAYONIER" is a highly refined wood cellulose particularly suited for the manufacture of cuprammonium yarn, saturating papers for production of simulated leather products, and laminates.

EXECUTIVE OFFICES: 122 East 42nd Street, New York 17, N. Y.

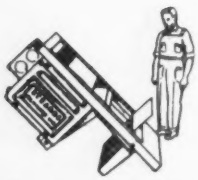
MILLS: Hoquiam, Port Angeles, and Shelton, Washington; Fernandina, Florida.

Stearns MAGNETIC EQUIPMENT



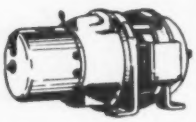
Stearns Magnetic pulleys, air-cooled for more power. All sizes or complete separator units. Bulletin 301.

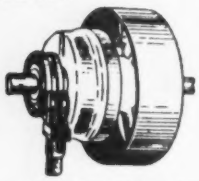
Stearns Suspended Separation Magnets, Bulletin 25. Lifting Magnets, Bulletin 35, all sizes and shapes.



Stearns Automatic Spout Magnets for catching tramp iron in your material flow. Bulletin 92.

Stearns Magnetic Disc Brakes stop over-running motors and machinery. Rugged and compact design. Bulletin 604.





Stearns Magnet Clutches and Clutch-Brake units for near or remote control on Machinery. Bulletin 225.

Investigate the Stearns Air Duct Magnet for collecting tramp iron as well as arresting flow of other non-magnetic objects found in cotton, wool, shoddy and other material, an effective, automatic strong magnet designed especially for the textile industry. We also manufacture permanent magnets that can be designed to fit into your flow. Consult our engineering department.

IF IT'S MAGNETIC WE MAKE IT
PULLEYS · BRAKES
DRUMS · CLUTCHES
SEPARATORS · FILTERS
ORE CONCENTRATORS
SEPARATION OR LIFTING MAGNETS
Stearns MAGNETIC MANUFACTURING CO.

646 So. 28th St. MILWAUKEE 4, WIS.

and to be available in shaft sizes from ¾ to 7 7/16 in.

Photoelectric Unit

"Shadowcount," a high-speed unit for accurately actuating a commercial-type, reset electric counter at rates up to 1,000 per min., directly in the plate circuit of the output tube, has been announced by The Autotron Co., Danville, Ill. The device is based on a principle in which the counting cycle is constant and is set to be completed in approximately 1/20 sec., even though the impulse may be of much shorter or longer duration.

The optical system can be set to a short focal length, it is reported, producing a point source of light so that small objects passing through it cast a positive shadow on the phototube. Only small portions of large objects need interrupt the light beam. When the unit is used to actuate devices other than an electronic counter, the timing circuit can be adjusted to shorten or lengthen the output impulse. Heads may be placed in any position and spaced up to 6 ft. apart.

Heat-Resistant Grease

A new lubricant said to defy the factors of water and heat has been announced by Yanda Industries, 6819 West Hemlock Rd., Independence, Ohio. The lubricant, known as Zupan "Hi-Lo" temperature grease is a synthetic-oil constituent which reputedly never hardens, gums, or oxidizes and is said to be non-corrosive. It is reported to have a tough, adhesive body and to be made so that it can be applied directly through high-pressure guns or compression cups.

The new grease will not separate in use, it is stated, even at temperatures in excess of the melting point. Zupan "Hi-Lo" is claimed to be particularly applicable to lubrication of sealed bearings, twister rings, universal joints, gears, etc. From a low of —40° F., to +600° F., Zupan "Hi-Lo" does not lose its fundamental lubricating characteristics, it is said.

Infrared Lamps

Two new 125-watt infrared industrial lamps have been announced by General Electric Lamp Department, Nela Park, Cleveland, Ohio.

One of the lamps is equipped with a G-30 bulb and is designed especially for use in open-reflector ovens; it has a medium-skirted base, 5-in. light-center length, and fits infrared reflectors now in general use.

The other lamp has an R-40 reflector-type bulb and a medium-skirted base. Average laboratory life for both lamps is rated in excess of 5,000 hours.

Ball-Bearing Flange

A new ball-bearing flange unit, known as the SC ball-bearing flange, has been announced by Dodge Mfg. Corp., Mishawaka, Ind.

The bearing is said to be fully self-aligning, to have deep-groove, precision balls with a long inner race, improved labyrinth seals, and is reputed to be suitable for mounting against vertical or horizontal frames and supports. The back face of the housing is machined; and filling slots are also at the back, which provides added protection against external dust and dirt.

The flange unit is an addition to a new line available in pillow blocks, hanger bearings, take-up, and cylindrical units, as well as in steel-frame, ball-bearing take-ups.

Mill Maintenance TO KEEP 'EM RUNNING

Trained Personnel Needed To Operate Sprinklers

In most mills, there is some question as to who should operate the control valves on the sprinkler system. To keep down loss from sprinkler heads being prematurely opened or pipes being accidentally broken, there should be one or two men in each department capable of determining whether or not there is a fire and whether or not the water supply should be shut off if there is one.

The following five measures have proved to be of value in at least one large mill:

1. Number each control valve.
2. Number each riser with the same number as the valve that controls the flow of water through the riser.
3. Have the master mechanic or other person responsible for the pipe system instruct the authorized men in each department in the location and operation of their assigned control valves.
4. Post at the entrance to each department a valve-inspection sheet so that the authorized men in the department can refresh their memories regarding their duties and the execution of them.
5. Have any of the authorized personnel who closes a control valve notify the master mechanic or other person responsible for the plant's fire-protection service.

1898/1948

OUR 50th ANNIVERSARY

SUPERIOR PROCESSING OF NYLON AND OTHER YARNS—

THE REWARD OF HALF A CENTURY

OF PROGRESSIVE EXPERIENCE

NEW! Tray-Pack—a system of shipping cones for greater protection. No unnecessary handling. Keep at or near machines, unwrap cones as needed.

KAHN & FELDMAN, INC.

Established 1898

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James Bldg., Chattanooga 2, Tenn.

Causey Bros.
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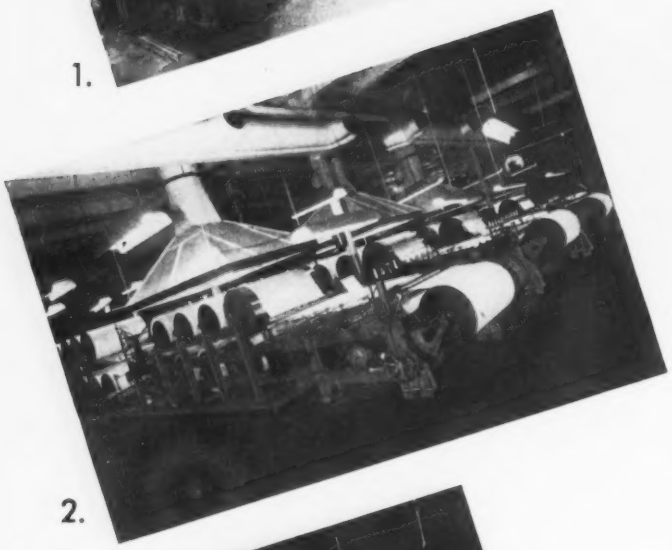
David F. Swain & Co.
222 W. Adams St., Chicago 6, Ill.

Because they produce quality warps—

JOHNSON WARP SIZERS

. . . are used by efficient mills like these, where fine equipment reduces the cost of production and improves the quality of fabrics.

1.



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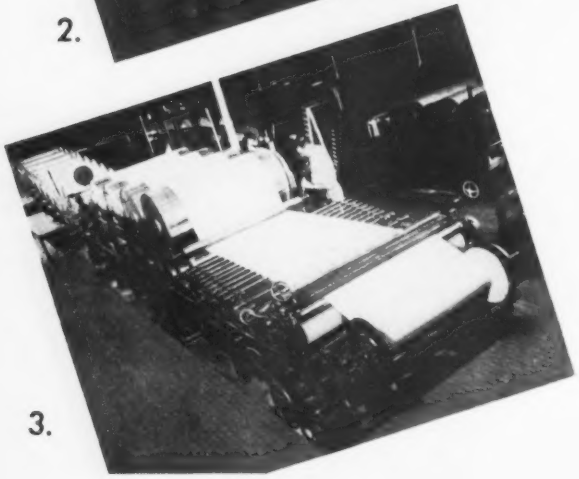

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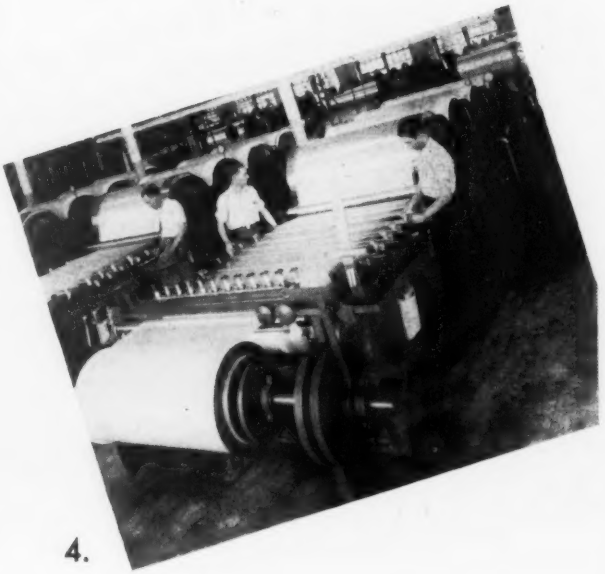

4.

1. *Peerless Mills Co.*
2. *Robbins Cloth Mills.*
3. *American Viscose*
4. *A leading Southern Mill.*

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Big, new book of facts about PC Glass Blocks

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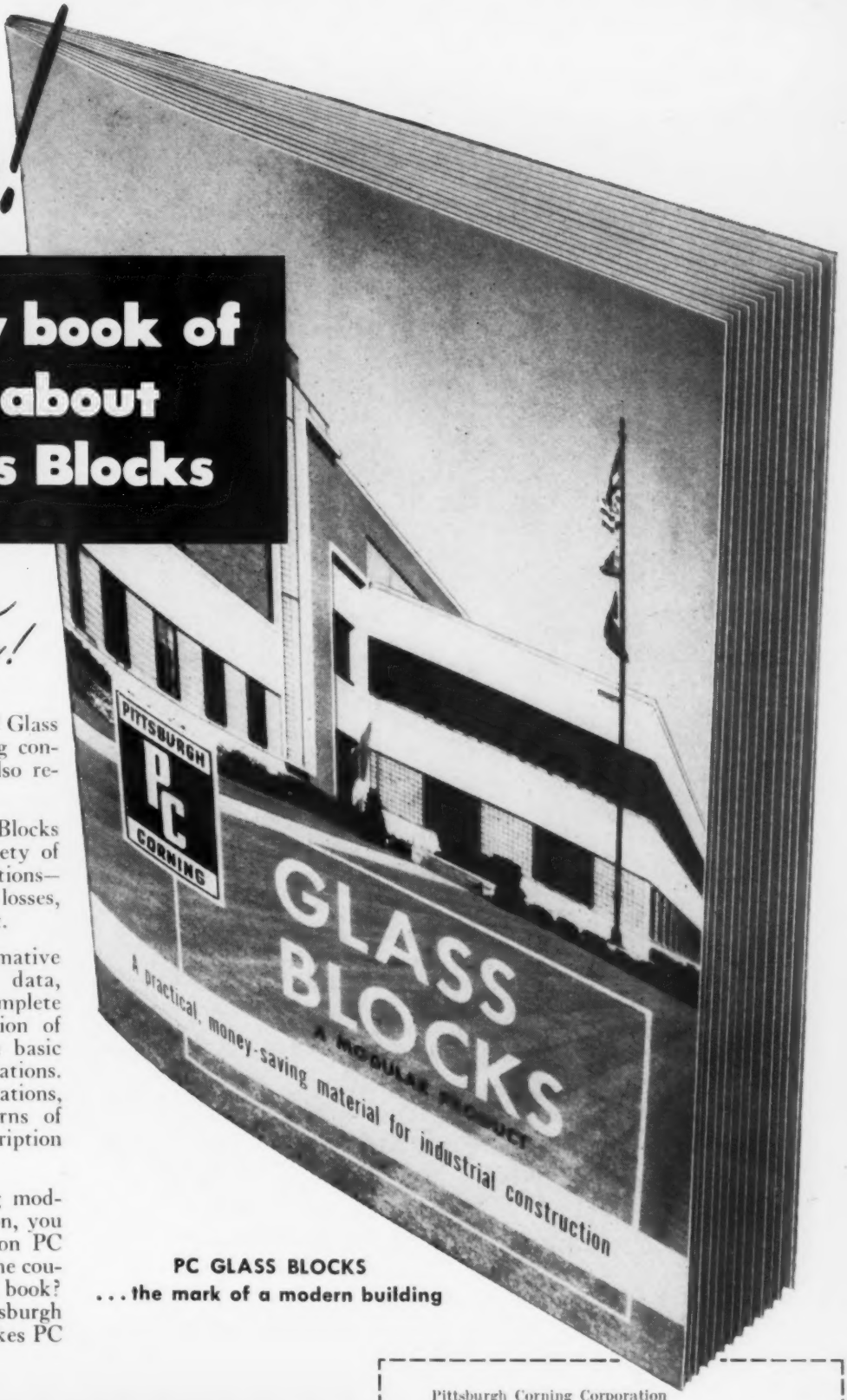
IT TELLS you how panels of PC Glass Blocks can improve operating conditions in your plant—and also reduce operating costs.

IT SHOWS you how PC Glass Blocks are now used in a wide variety of buildings—for walls and partitions—to distribute light, reduce heat losses, exclude harmful dust and grit.

IT GIVES you 32 pages of informative text, complete engineering data, charts, specifications and complete information on the application of modular coordination to the basic principles of glass block installations. It also contains many illustrations, including the various patterns of PC Glass Blocks and a description of their individual functions.

Whether you are planning modernization or new construction, you need the latest information on PC Glass Blocks. Why not send the coupon today and get this helpful book? Remember, it's free. Pittsburgh Corning Corporation also makes PC Foamglas Insulation.



PC GLASS BLOCKS
. . . the mark of a modern building

PITTSBURGH PC CORNING ®

GLASS BLOCKS

Distributed by PITTSBURGH PLATE GLASS COMPANY
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FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS

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U. S. bronze travelers give longer life today than ever before because we've tried out many special alloys and arrived at an exceptionally good one. It's safe to say the resistance to cutting and general service life is 20 to 35% greater than just a few years ago. The combination of better bronze and our distinctive Bevel Edge on wet twisting really makes a difference. Swing to U.S.—a swing in the right direction.

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U.S. men are spotted around where the busy spindles are. A request for service will bring you a prompt response from a man equipped by practical experience to help you keep traveler troubles down and yarn production up. Our Southern and Northern warehouse stocks permit same-day or over-night delivery 'most anywhere.

A Style and Size for Every Textile Fibre

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123 Treaty Rd., Drexel Hill, Pa. Phone Hilltop 2946
H. R. Fisher, Concord, N. C. Box 83—Phone 8366
C. W. Smith, H. J. Smith, Providence, Box 1187 Gaspee 0100

Books of Interest

The Why and Wherefore of Color

THE COLOR OF LIFE, by Arthur G. Abbott; McGraw-Hill Book Co., 330 West 42nd St., New York 18, N. Y.; 294 pages, $6.00.

The title is a bit ambitious and sentimental, but the content of this book is complete in presenting to the reader a basic understanding of color. In its own words, "This book is not intended to be a guide for any science, trade, or profession, but a source of pleasure and profit for the average man, woman, or child through obtaining a more intimate knowledge of one of the most vital forces of life. The purpose of this book, therefore, is to present a variety of facts, theories, experiences, and observations about color that will be interesting and useful to a large number of people."

To the reviewer, it seems that the book's contribution to a textile man will be along the lines of color harmonies and color suitabilities. To the textile student at the earlier stages of his consideration of color, the book suggests practices and procedures which should go far toward developing color taste and color discrimination. Beyond this, the book contains much useful reference material. The titles of the seven parts into which it is divided indicate the approach—the foundations of color (light, matter, sight); colors by nature and how produced; colors by man and how produced; guides to use of color; colors for everyone; relation of color to man's progress; references. The book has carefully prepared acknowledgments at the close of each chapter and a comprehensive bibliography at its end. The index makes the volume useful for reference in a mill library. In it, for example, are found 22 pages on color names. There are chapters on dyes and on paints; also listings of colors found in nature, as in flowers, animals, etc.; and details of color combinations suitable for dwellings, public buildings, apparel, etc. Uses of color in codes, advertising, and food are presented; and there is a listing of organizations which are interested in the field of color and of manufacturers of colors for various industries. There is much practical data from many angles, and even a page or more on removing accidental color from fabrics.

The book contains seven color plates, including the color-wheel, and demonstrations of harmonies, discords, changes of appearance in combination, and of the distinction between, hue, value, and chroma. Considerable ingenuity would be required to devise a question related to color which could not be answered by consulting the pages of Arthur Abbott's work.

A Lathe Manual

HOW TO RUN A LATHE; South Bend Lathe Works, South Bend 22, Ind.; 128 pages, $1.00.

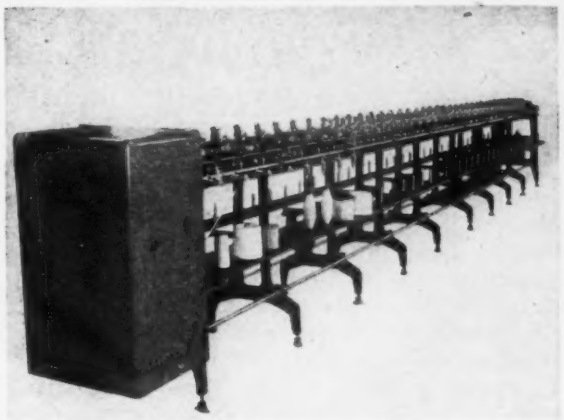
The South Bend Lathe Works has just issued the 45th edition of its popular book "How To Run A Lathe." A number of changes in text material and illustrations have been made since the previous edition was printed in 1944. This book contains information on the operation and care of metal-working lathes. It covers such subjects as the operation of the lathe units, grinding cutter bits, making accurate measurements, plain turning, chuck work, taper turning, boring, drilling, reaming, tapping, cutting screw threads, reference tables, etc.

Manual for Instruments And Controls

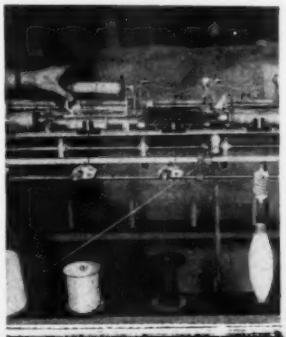
INSTRUMENT AND CONTROL MANUAL FOR OPERATING ENGINEERS, by Eugene W. F. Feller; McGraw-Hill Book Co., 330 West 42nd St., New York 18, N. Y.: 426 pages, $6.00.

This book has been compiled as a practical manual for the man in the plant who needs fingertip information for the quick and sound solution of specific metering and control problems. Diagrams and descriptions are presented of the available types of apparatus which indicate and control liquid-level, pressure, temperature, speed, and humidity. The following summarizes the contents: Simple liquid-level instruments; pressure elements; head meters for liquid level, pressure, and flow; temperature elements; characteristics of motor-operated valves; self-operated pressure valves; temperature valves; hygrostats and psychrometers; control mechanisms and systems; controller applications, emergency instruments; feedwater control; mechanical governors; hand valves and piping; traps and condensate systems. An appendix gives definitions and standard terminology.

SIPP-EASTWOOD EQUIPMENT FOR BETTER PRODUCTION



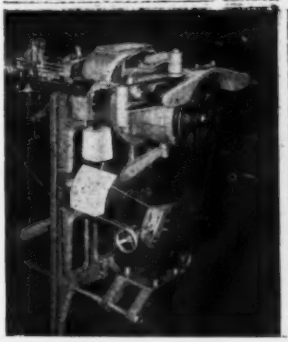
This new Sipp-Eastwood Winder-Redraw makes possible smoother traverse and higher speeds than with conventional redraws. The speed is limited only by the strength of yarn—500 yards per minute or more.

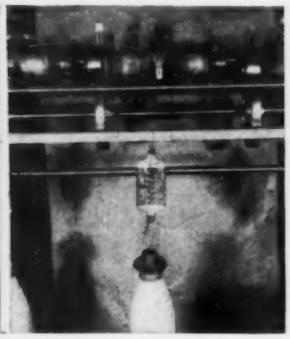


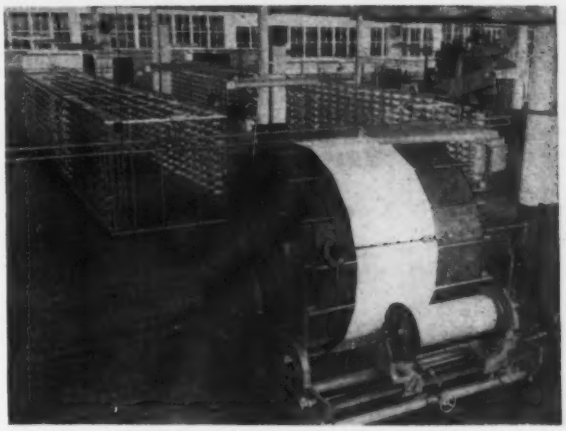
1—Quick, easy doffing. Note self-opening spindleless attachment. Self threading alsimag guide and revolving pulley tension.

2—Improved drive allows for quick changes of traverse, speeds and warps.

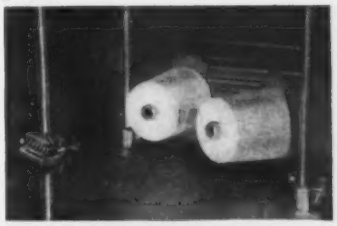
3 — (Below) Washboard tension. Our standard gate tension is particularly adapted for redrawing nylon.



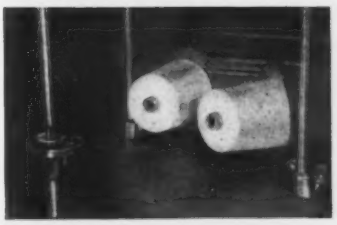




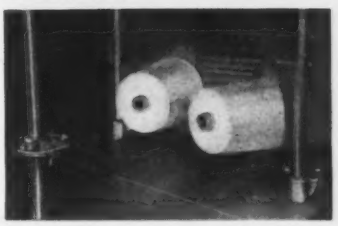
Sipp-Eastwood Over-end Magazine Cone Creel and Horizontal High Speed Warper for high speed warping from cones, spools, tubes, or pirns.



1—Our gate type creel tension of hardened steel, gray satin finish, chromium plated to resist wear.



2—Pulley type creel tension. Retarding action is obtained by friction applied to the rotating members—not to the yarn.



3—Washer type creel tension. Employs double set of washers, giving perfect tension for fiber yarns, as well as for fine denier flat yarns.

THE DENSIMETER

Measures density of cops, quills, spools, and other packages. Used in conjunction with the Tensometer to assure uniform density of packages.

THE TENSOMETER
New sturdy model.

Measures tension of yarns and aids in the prevention of seconds in woven fabrics due to uneven tensions in warping, winding and quilling.

ITS A SIPP EASTWOOD TRADE MARK

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39 KEEN STREET **PATERSON 4, NEW JERSEY**

and now,

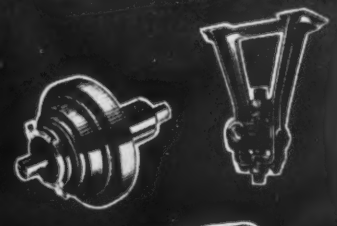
A COMPLETELY MODERNIZED FOUNDRY

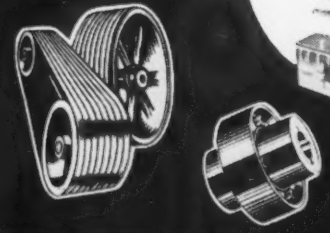
maintains the high quality production of Wood's Power Transmission Equipment in sufficient quantity to satisfy the requirements of our customers.

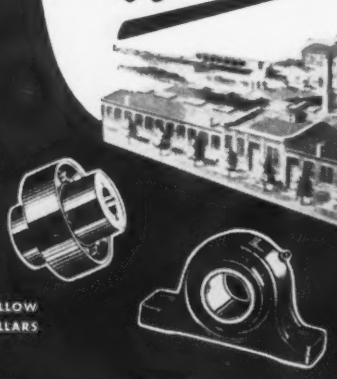
Mechanization—planned during the war—is now nearing completion. Our new sand preparation and handling system prepares and delivers conditioned sand to overhead hoppers on the molding floor. An entirely new sand, the latest developed through metallurgical research is being used. Molds from this sand are free from defects and have a smoother finish than is possible with conventional sands. The molding set-up—designed to use the "continuous mold and pour technique"—employs molding machines of the latest design, sand slingers, mold conveyors and a vibrating shakeout to speed the foundry operation. Two cupolas—with mechanical chargers to insure correct iron specifications—round out the mechanization program.

This program not only triples our foundry capacity but enables us to supply our customers, more promptly with a better product.

An attractive, well illustrated brochure describes our modern plant facilities. Write for your copy, today.







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PULLEYS • CLUTCHES • HANGERS • PILLOW BLOCKS • COUPLINGS • BEARINGS • COLLARS V-BELT SHEAVES AND COMPLETE DRIVES.

BRANCHES . BOSTON, MASS. NEWARK, N. J. PITTSBURGH, PA. CLEVELAND, OHIO DETROIT, MICH.

How to get Stainless Steel in a hurry!

ALL you have to do is telephone, wire or write our warehouse nearest to you.

We have on hand to fill your requirements: No. 2B finish sheets of proven excellence; No. 4 finish sheets of uniform quality; bars meeting high standards of machinability; plates in sizes up to 120″ wide and 360″ long; tubing, welded and seamless; pipe, angles, channels and welding electrodes in all standard grades and specifications.

Moreover, you have the help of our engineers in selecting the grades of U·S·S Stainless best suited to various types of service or that will fabricate best on your equipment. Free technical bulletins and booklets, showing the many and varied uses of U·S·S Stainless, also are supplied on request. And once a month we publish an up-to-date Inventory Bulletin which lists our stocks of Stainless.

So, whether you need advice and help from our engineers or have a definite order you want filled, you're sure of getting what you want *quickly* by contacting our warehouse nearest you.

If you use Stainless and are not receiving our monthly Inventory Bulletin, write for it right away.

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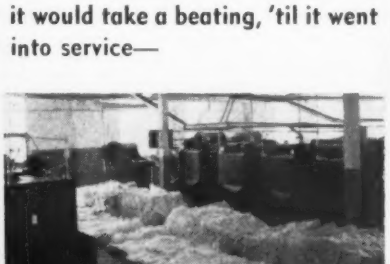
UNITED STATES STEEL

MANY A FOUL BALL HAS LOOKED LIKE A HOME RUN . . . 'TIL IT CURVED OUT!

And many a floor has looked like it would take a beating, 'til it went into service—



but . . . It's the Results that Count

And with **Stonhard Resurfacer** you are sure of the results . . .

- 1000,000 satisfied customers
- 500,000,000 square feet in daily use
- 25 years of service assure those results

Return the coupon for FREE floor maintenance guide . . . There's no obligation.

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Serving Industry Since 1922

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News of the month

Wage Rise Spreads. New union agreement adopted in northern cotton and rayon industry gives 10% wage increase. Minimum in most mills is up from 88¢ to 97¢. Average wages are up $1.07 to $1.18. Jan. 5 was the effective date. The agreement affects 90,000 workers, means $20,000,000 a year for this section of the industry. Contract runs to Mar. 15, 1950 with wage reopenings allowed on Jan. 1 and Sept. 15, 1949. This parallels an earlier advance in the South.

To Guard Against Jap Goods. Dr. W. P. Jacobs, president ACMA, is visiting Japan and conferring with General MacArthur with a view to prevent any dumping of Japanese goods. Donald Comer, president of Avondale Mills, and F. W. Symmes, president of Union-Buffalo Mills, went to Tokyo with him.

"Saran" Becomes Generic. The Dow Chemical Co. has formally released its trademark rights to the name "saran" permitting it to become the descriptive name of the product. Donald Gibb, head of the plastics sales division, said the action was taken "in the interest of simplifying identification on various plastic materials whose chemical names have for years been confusing to press, trade and consumer alike." The term saran applies to vinylidene chloride copolymers.

PTI Alumni Meet. Bertrand W. Hayward, director of the Philadelphia Textile Institute, was welcomed by the Alumni Association at its 47th annual banquet in Philadelphia on Jan. 22. This is the first annual banquet to be held since Mr. Hayward's appointment in the summer of 1947. Fleet Admiral Halsey, former commander of the third fleet was the principal speaker. Millard Brown, president of the PTI Foundation, announced that erection of new school building in Germantown would begin this year and be completed by fall, 1949. Robert A. Smith was toastmaster.

Textile Calendar

Northern New England Section, AATCC, meetings, Boston, Mass., Mar. 19, 1948; Lowell, Apr. 16, 1948; Andover, May 21, 1948; outing, June 11, 1948.

Hosiery Industry Conference and Annual Meeting of NAHM, Claridge Hotel, Atlantic City, N. J., April 19 and 20, 1948.

International Exposition of Textile Machinery, Equipment & Supplies, 71st Regiment Armory, 34th St. and Park Ave., New York, May 3 to 7, 1948.

World Trade Week, sponsored by Chamber of Commerce of the U. S., May 16 to 22, 1948.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 4 to 9, 1948.

AATCC, annual convention, Augusta, Ga., Oct. 21 to 23, 1948.

The WHY of High Prices. Inflationary policies of the government and aftermath of war, not excessive profits, are directly responsible for current high wool-textile costs, Curt E. Forstmann, president of the Forstmann Woolen Co., declares in a documented analysis of costs and selling prices from 1932 until the present time. The statement, entitled "The Corporate Cost of Living in the Wool Textile Industry," was issued, Mr. Forstmann explains, to clarify a price situation which directly affects the public's cost of living, and which has given rise to administration threats of a return to price controls. Of the cost of a yard of cloth, 75% consists of raw materials and labor, it is stated. A series of charts showing the trends of these costs, and of selling prices from 1932 on, are presented to illustrate that since 1932, costs of raw fibers have risen 180% and average labor costs have increased 171%, whereas selling prices have advanced only 75%.

Placement Bureau. Lowell Textile Institute, Lowell, Mass., has established a central placement bureau to facilitate the placement of its graduates in the industry. The bureau will function through the office of the dean.

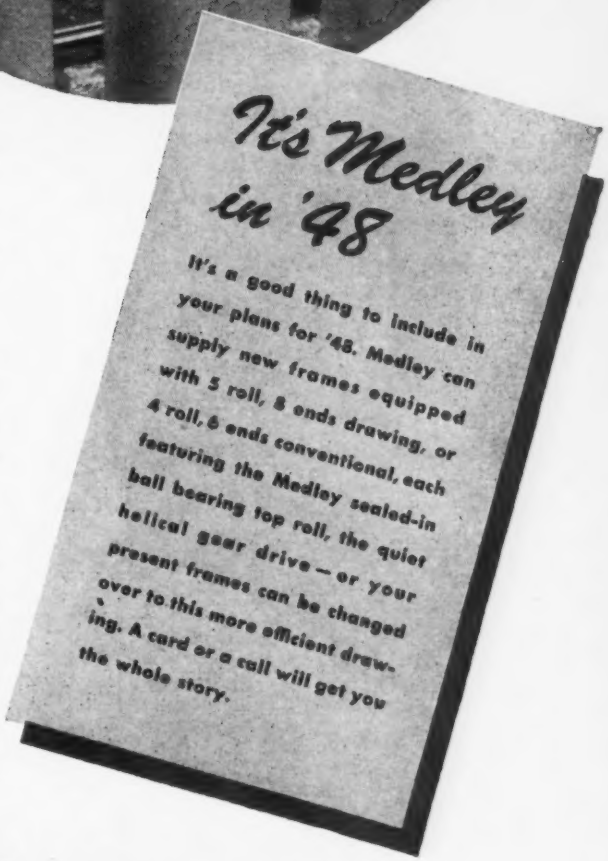
High-Temperature Water Used. Replacement of steam by high-temperature water in manufacturing processes, particularly in textile mills, has paid Australian concerns quick dividends in reduced fuel bills, according to McGraw-Hill World News. Fuel savings as high as 30% are claimed. A complete high-pressure high-temperature water plant has been installed in the new textile mill of James Miller & Co. Pty. Ltd., Warragul, Vic., and a similar plant is in operation in a knit-

Medley Drawing is in the Textile Spotlight for 1948!

Mills throughout the industry are turning to Medley Drawing. Day in and day out Medley Drawing Frames are turning out a more uniform sliver—they are reducing ends down to a minimum—they are helping mills meet production schedules by increasing efficiency.

Mill men who are faced with increased production schedules are checking operations in each department—carefully. Many who find the all important drawing process slowing production because of outmoded equipment are turning to Medley Drawing Frames. They praise Medley's "plus-features"—the sealed-in ball bearing top rolls, permanently lubricated—the noise-reducing helical gear drive. They like Medley Frames because they can be adjusted to draw any fiber—cotton, wool, synthetics, ramie, in staple lengths from $\frac{5}{8}$ inch to 13 inches.

Yes sir, Medley Drawing is really in the 1948 spotlight. If production is a problem in your mill—call or write Medley today for the counsel of a trained textile or mechanical engineer.


It's Medley in '48
It's a good thing to include in your plans for '48. Medley can supply new frames equipped with 5 roll, 8 ends drawing, or 4 roll, 6 ends conventional, each featuring the Medley sealed-in ball bearing top roll, the quiet helical gear drive — or your present frames can be changed over to this more efficient drawing. A card or a call will get you the whole story.

The MEDLEY System, Inc.

400 32nd ST., COLUMBUS, GEORGIA

Medley Manufacturing Co., Columbus, Ga. • Gastonia Roller, Flyer & Spindle Co., Gastonia, N. C. • Allan Textile Machine Co., Pawtucket, R. I.

WILDMAN Multiple-Feed RIB MACHINE

You NEED it for VOLUME for STYLING for UNIFORMITY of SIZES

To the man in the mill who is responsible for increasing production, this machine's most outstanding achievement is that it

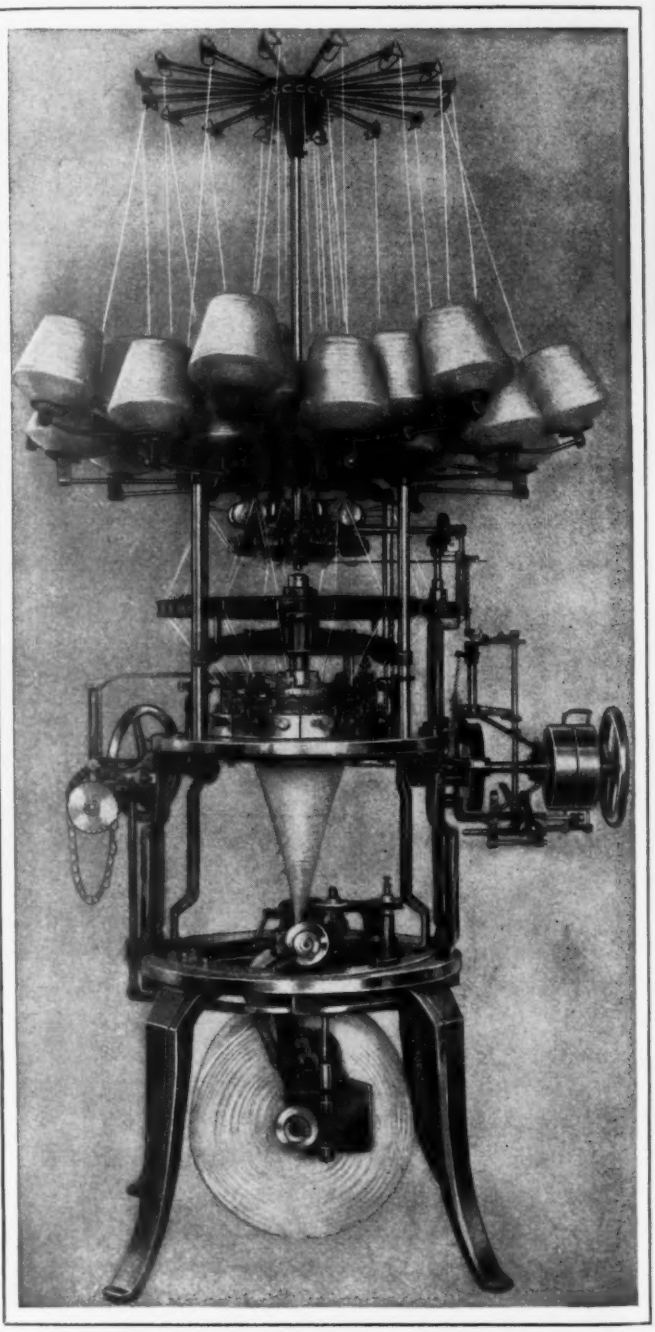
DOUBLES PRODUCTION or BETTER

on exactly the same floor space that a regular 8-feed machine occupies in your plant.

To the man interested in bettering quality and style, it immediately offers far greater opportunities for style variety.

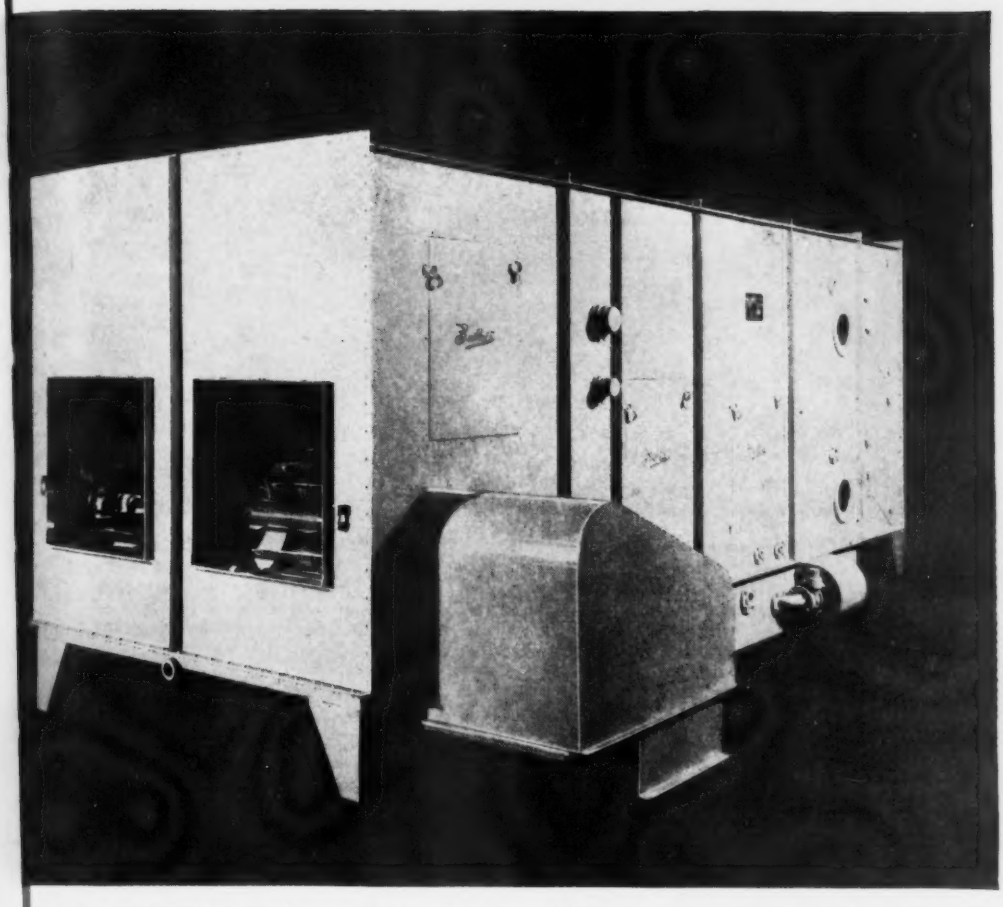
To the man who is a stickler for precision, it feeds the yarn under such even tension that the uniformity of garment sizes is easy and constant.

May we tell you about its other splendid and exclusive features?



WILDMAN MFG. CO., Norristown, Pa.

AIR EQUIPMENT TO HELP YOUR BUSINESS



Buffalo" PCGW Wet Glass Cell Air Washer with Tempering and Reheating Coils

Washed Air

PROPERLY TEMPERED

AND HUMIDIFIED for better product control

● Here is controlled air, adjusted to your process and comfort needs! "Buffalo" Wet Glass Cell Washers draw your air through a dense curtain of atomized water and through wetted, finely divided spun glass filter packs — remove 98.5% of all dust visible without magnification. This thorough cleaning pays for itself where processes depend on dust-free air.

PROVISIONS for HEATING

These PCGW Cabinets have spaces for either hot water or steam type heating coils. And if your process requires cooling in addition to cleaning and heating, there are "Buffalo" PC units for that. For complete information, write for Bulletins 3457 and 502A.

BUFFALO FORGE COMPANY

184 Mortimer Street Buffalo, N. Y.

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

FANS by "Buffalo"

EQUIPMENT FOR

★ VENTILATING

★ HEATING

★ COMFORT COOLING

★ PROCESS COOLING

★ AIR TEMPERING

★ AIR WASHING

★ EXHAUSTING

★ BLOWING

★ FORCED DRAFT

★ INDUCED DRAFT

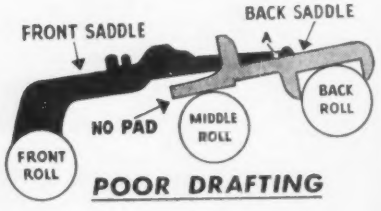
★ PRESSURE BLOWING

★ CLEANING

★ DRYING

ULLING AIR COSTS IN EVERY

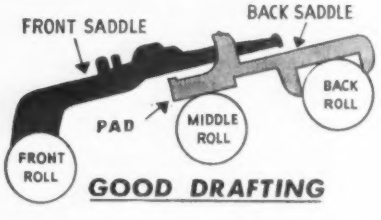
Saddles Out of Parallel Cause This



If your saddle bearings are thrown out of parallel due to a middle roll of smaller diameter, the resultant *ineffective weighting* causes *poor drafting*. Grinding the front saddle to prevent contact at point "A" is not the solution. Saddles are still out of parallel and the locking feature which keeps front and back saddles together is destroyed. When this happens the back saddle is frequently separated and misplaced.

DIXON Insures GOOD DRAFTING

With the Saddle for Every Requirement



To correct troubles arising from changes in roll diameters, DIXON has a line of back saddles with pads in assorted sizes for the middle roll bearings. These padded bearings, as shown above, solve the problem of proper positioning and correct improper weighting of saddles.

When your middle roll diameters are less than other roll diameters, order the DIXON padded back saddles and continue good drafting.

"It Costs So Little and Saves So Much" To Have the Correct Saddle Suited To Your Special Requirements.

DIXON LUBRICATING SADDLE CO.
Established 1876
BRISTOL, RHODE ISLAND, U. S. A.

Sole Manufacturers of
DIXON
LUBRICATING SADDLES

ASPINOOK CORP. has greatly increased the printing-roll engraving facilities by a 50% enlargement of that department at Arnold Print Works, Adams, Mass., a subsidiary, as shown above. This engraving department previously produced the engravings only for the needs of the Arnold plant. The Arnold plant is now producing engravings for the parent company at Jewett City, Conn., its affiliate, the Lawrence Print Works, Inc., Lawrence, Mass., and the Hampton Print Works, Easthampton, Mass.

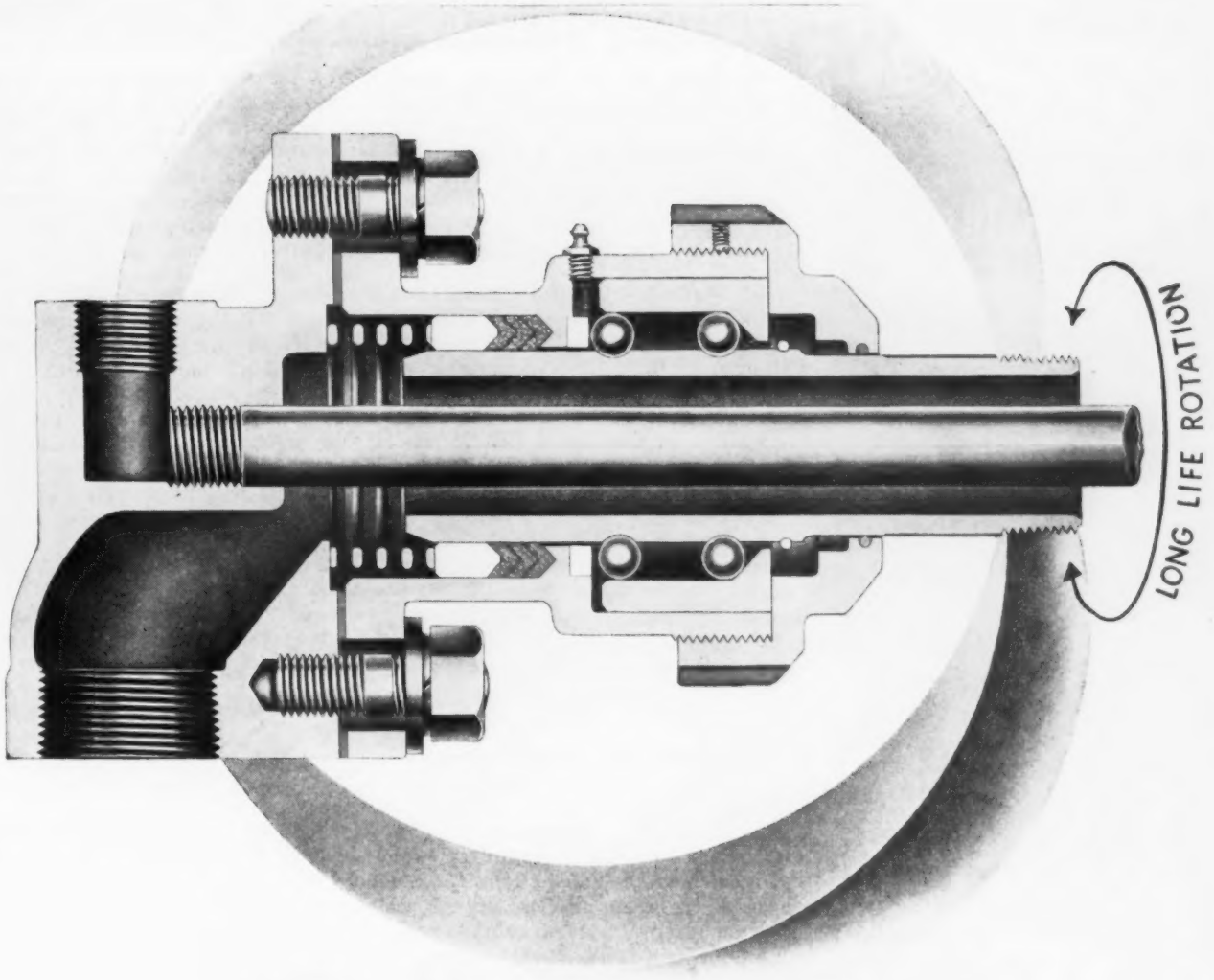
ting mill at Richmond, Vic. Temperatures as high as 350° F. at 120 psi. pressure are generated, and the water is circulated by pumps to heat-exchange coils which impart the heat to the air or to liquids, whichever the process requirement. Since the system is closed and at no point exposed to the atmosphere, the water returns to the boiler with a minimum heat loss. [see T. W., Dec.. '43, p92; Jan. '47, p129.] It is also possible to maintain a more constant temperature than with steam.

Committee on Ageing. The committee on ageing of textiles of the American Association of Textile Chemists & Colorists has recently been reorganized. Members of the committee are: J. D. Dean, Southern Regional Research Laboratories, chairman; W. D. Appel, National Bureau of Standards; K. H. Barnard, American Cyanamid Co.; W. H. Cady, United States Finishing Co.; Mary A. Grimes, Texas Agricultural Experimental Station; Dr. J. F. Oesterling, Philadelphia Quartermaster Depot; Dr. W. M. Scott, Southern Regional Research Laboratories; Col. F. M. Steadman, Philadelphia Quartermaster Depot; and Julian Maas, cooperating non-member, Brooklyn Naval Clothing Depot.

What Cotton Needs. Quality improvements in cotton in 31 major fiber characteristics will mean new markets for hundreds of thousands of bales, according to the National Cotton Council's market research department. Failure to keep the pace in technology could easily result in disastrous losses of cotton markets to competing fibers, according to the same group. Improvements in warmth, draping qualities, resiliency, luster, sheerness, dimensional stability, slipperiness, resistance to clinging, abrasion resistance, insulating properties, elasticity, and crease resistance would do most to improve cotton's competitive position, the market experts declared.

Throwing Rates Up. Leading throwsters have increased their rates on nylon yarn throwing, and the advances average about 10¢ a lb. or 5 to 6%, it is reported. Some throwsters have applied blanket increases on all deniers; others have raised the prices only from the 20-denier up, and still others only from 30-denier. Rise in labor costs, it was said, was the chief cause of the increased throwing rates. In the last 5 yr., according to one throwster, the basic labor rate has gone up from 40 to 88¢ an hr.

Verdun's 25th Yr. The silver anniversary of Verdun Mfg. Co., Woonsocket, R. I., in 1947 has been marked by the issuance of a well illustrated and dramatically written brochure. Jacques Lepoutre, one of seven sons of Auguste Lepoutre of Roubaix, France, was selected by his father at the early age of 11 to be the eventual head of a worsted-weaving enterprise in the United States. World War I intervened but the project was realized in 1922 when Jacques at the age of 28 set up 24 automatic looms in a new three-story building in Woonsocket. At that time only 2,000 out of 60,000 wool goods looms were automatic. Verdun now runs 90 automatics and



Reducing Diet

FOR MAINTENANCE OVERHEAD

The Barco revolving joint is specifically designed for the textile industry . . . for slashers, calenders, sanforizers and dry cans. Guards against steam leaks and wearing friction. Reduces power loss because of its lower turning torque. Barco's record of installations in textile weaving and finishing plants or bleacheries has been particularly successful. For further information write Barco Manufacturing Company, Not Inc., 1834 Winnemac Avenue, Chicago 40, Illinois.

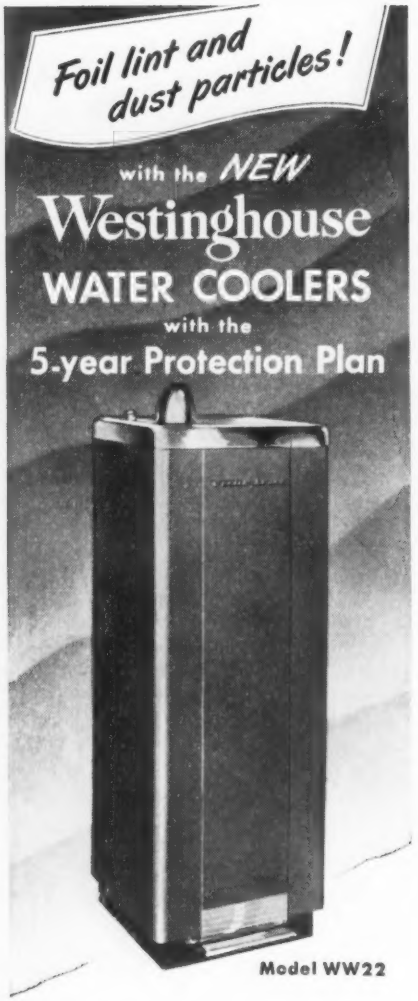
BARCO ***FLEXIBLE JOINTS***

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

In Canada: The Holden Co., Ltd., Montreal, Canada

Not just a swivel joint ...but a combination of a swivel and ball joint with rotary motion and responsive movement through every angle.

"MOVE IN EVERY DIRECTION"



For locations such as textile mills, with foreign particles in the atmosphere, water coolers with *water-cooled* condensers are the only good solution. Water, rather than air, cools the condensers, eliminates lint and dust particles and maintains full refrigeration capacity. Westinghouse Water Cooler models WW14, WW22 and WWE14 include water-cooled condensers as standard equipment.

All Hermetically-Sealed

For installations where air cooling is permissible, Westinghouse provides four other models. A Bottle Cooler and six Pressure Coolers; seven models to assure a capacity for every need. All require only 14 square inches of floor space . . . all are Hermetically-Sealed and carry the 5-Year Protection Plan.

Your local Westinghouse Supplier will be happy to give you full details.

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Div., Springfield 2, Mass.

Westinghouse
WATER COOLERS

will install 18 more this year. Wool top is bought from Lafayette Worsted Co., founded by the late Auguste and Louis Lepoutre in 1899. Jacques Lepoutre is proud of the 29 workers who have been with Verdun 20 yr. or more. They play an important part in the pages of the anniversary booklet.

"Flockenbast." German methods for processing "Flockenbast," a flax-like raw material suitable for cotton-spinning machinery, are described in a report on German linen now on sale by the Office of Technical Services, Department of Commerce (PB 78648). The report was prepared by investigators for the British Intelligence Objectives Sub-Committee. The cutting off of cotton supplies during the war made Flockenbast a welcome alternative to various rayon staples that were alone available for processing on cotton-spinning machinery, the report states. It cannot be regarded as an economical process except in special circumstances.

Cotton Congress in Dallas. Dallas is the site for the ninth annual Cotton Research Congress, set for July 22 to 24, 1948, under sponsorship of the Statewide Cotton Committee of Texas. Burris C. Jackson, Hillsboro, is general chairman. Preliminary plans call for greatly expanded exhibits and a full program devoted to international trade, newest developments in cotton production, mechanization, research.

AATCC at Atlanta. The Southeastern Section of the American Association of Textile Chemists and Colorists (AATCC) held its annual winter meeting in Atlanta at the Ansley Hotel, Dec. 6. New officers for the coming year were elected as follows: President, C. Russell Gill; vice chairman, Howard M. Waddle; secretary, S. J. Davis; treasurer, W. Fred Crayton; Councillor, W. B. Griffin. A "Review of the German Textile Reports" was presented by Thomas R. Smith, past president of the section.

Stribling Memorial Fellowship. A trust fund of $50,000 has been set up by Habersham Mills Foundation, Clarkesville, Ga., to create at Georgia Tech the T. Earl Stribling Memorial Textile Fellowship. Income realized from the fund will be utilized to provide an annual graduate fellowship.

Tufted Men Meet in May. Third annual convention of the National Tufted Textile Manufacturers Association will be held at Daytona Beach, Fla., May 27 to 29, 1948. Henry C. Ball, of Dalton, Ga., is executive director.

New Georgia Tech Building Named. The new $1,000,000 textile and research building now under construction at Georgia Tech will be named in honor of the late William Harrison Hightower, pioneer textile industrialist, Georgia Tech graduate, and president of Thomaston Cotton Mills.

November Was Safest Month. November was the safest month in the history of the American Viscose Corp., Abbott Smith, Sr., head of the corporation's safety division, reports. In November there were only two lost-time accidents in all of the corporation's seven rayon plants where a total of 19,310 persons worked 3,223,819 man-hours.

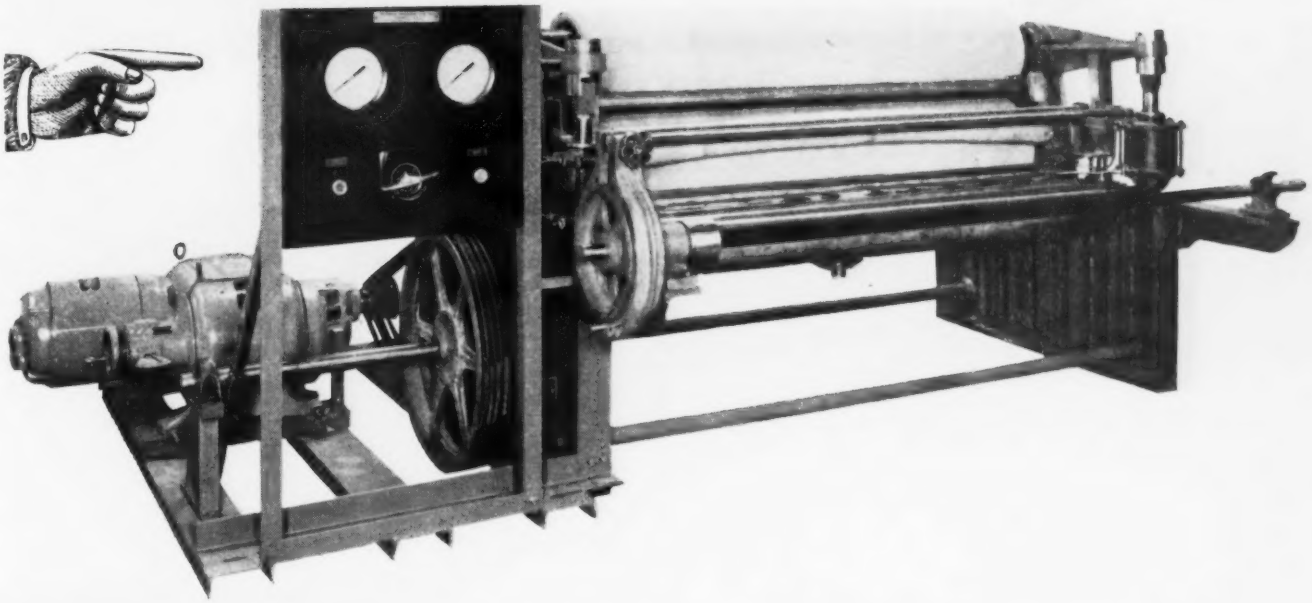
Year-End Bonus. Year-end bonuses amounting to more than $500,000 were distributed by Industrial Rayon Corp. to its hourly and salaried employees in Cleveland and Painesville, Ohio, and Covington, Va. "We are naturally pleased that the company's good operating performance for 1947 has made this bonus increase possible," said Hiram S. Rivitz, president.

Service to S. C. Mills. Arrangements are being made by the textile school of Clemson College, Clemson, S. C., whereby mills in the state can make use of equipment to be installed through a $100,000 fund. Dr. Hugh M. Brown, dean, said that the principal item among the new equipment is a seven-cylinder slasher with a 16-beam creel and high-speed warper with 650-end creel. With this equipment, Dr. Brown said, warps can be prepared from any type yarn. Other machinery and equipment to be installed includes 10 looms, two dyeing machines, several roving frames, cleaning and blending equipment, picking, carding, and winding equipment.

Piedmont Research Committee. V. B. Holland, of Cannon Mills, has recently been appointed chairman of the sectional advisory research committee of the Piedmont Section of the American Association of Textile Chemists & Colorists. Other members of the committee are: Dr. R. E. Rupp, Pacific Mills; Charles E. Ordway, Burlington Mills; Linton C. Reynolds, Riegel Development Laboratories; and Hobart Souther, Proximity Print Works.

Burlington Gifts. Burlington Foundation, charitable trust established by Burlington Mills, has given $50,000 to the home-economics foundation of the Women's College of the U. of N. C. and $15,000 to the engineering foundation at N. C. State College.

NOTE the simple and practical design of Werner's Pneumatic Padder...



AND how all the controls are within easy reach of the operator . . .

WERNER EQUIPMENT

Beamer
Decater
Dry Cans
Examining Machine
Flock-Printing-Range
Jig
Open Width Boil-Off
Padder (2 and 3 roll)
Palmer Tenter Quetch Range
Pile Fabric Finishing Range
Quetch
Rubbing Machine
Rope Washers
Stainless Steel Dye Kettle
Single-Color-Roller Print Machine
Tuber
Tenter Frame
Vacuum Extractor

Yes . . . these features in Werner's Pneumatic Padder provide easy operation, which in turn brings about faster and more efficient operation.

Werner's Standard Padders are made in widths of 50" to 100" in increments of 10". Any special width Padder can be made, however. They all contain the same worthwhile features: strong, rugged construction, motor driven on A.C. or D.C. current, temperature controls. Maintenance costs are at a minimum, an instance being that when regrinding, the rolls can be easily removed without dismantling the major parts of the machine.

The Padder applies color evenly for dyeing, with maximum penetration and no shading. For finishing, crease proofing and water proofing applications, the machine likewise gives even applications of liquor with maximum penetration and the pick-up can be controlled through adjustment of the air load on the cylinders. The panel permits individual control on each side with pressure to 12½ tons.

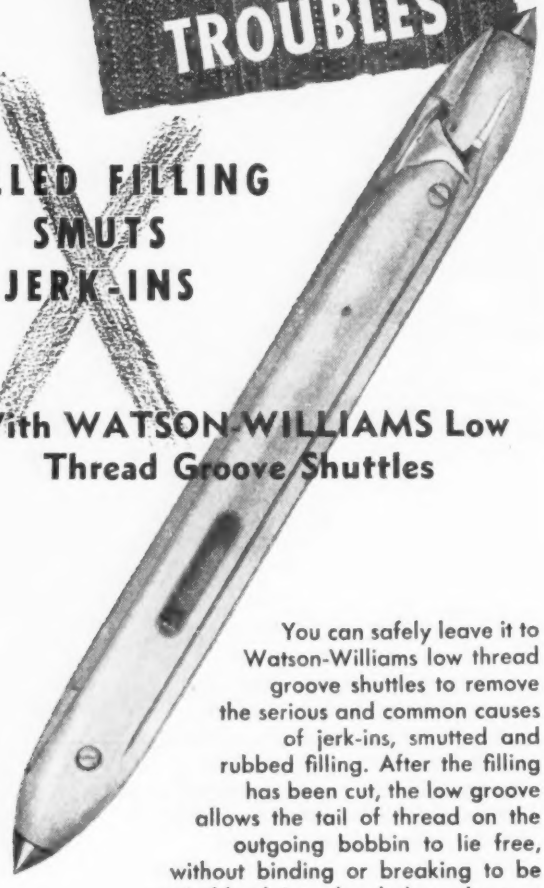
For full details on Werner's Padder we invite you to write today.

WERNER MACHINE COMPANY, INC.

Telephone PAssaic 3-3110

PASSAIC, NEW JERSEY

CROSS OFF THESE TROUBLES



ROLLED FILLING
SMUTS
JERK-INS

With WATSON-WILLIAMS Low Thread Groove Shuttles

You can safely leave it to Watson-Williams low thread groove shuttles to remove the serious and common causes of jerk-ins, smutted and rubbed filling. After the filling has been cut, the low groove allows the tail of thread on the outgoing bobbin to lie free, without binding or breaking to be carried back into the cloth on the next pick. Also, the low groove allows the filling to fall slack when picked out from the magazine end, instead of being rolled, or rubbed and smutted by the lower face of a conventional shuttle. Let your Watson-Williams representative show you how to eliminate these difficulties once and for all.

WATSON-WILLIAMS MANUFACTURING CO.
MILLBURY, MASS.

SOUTHERN REPRESENTATIVES: Watson and Desmond, Box 1954, Charlotte, N. C., John W. Littlefield, 810 Woodside Bldg., Greenville, S. C., Walter F. Daboll, Jefferson Bldg., Greensboro, N. C. **WESTERN REPRESENTATIVE:** Arthur J. Bahan, P.O. Box 245, La Porte, Indiana. **NORTHERN REPRESENTATIVE:** Guy C. Burbank, 32 Beaconsfield Rd. Worcester 2, Mass.

NEWS ABOUT *Suppliers*

J. E. Sirrine Co., Greenville, S. C., has added to its staff as building-design engineer William T. St. Clair, formerly assistant to the president of Poe Hardware Co., Greenville, S. C. He is a graduate of Virginia Polytechnic Institute in 1935, served as a lieutenant-colonel in Army Engineers at Oak Ridge, Tenn., and prior to the war had his own industrial engineering firm in Nashville, Tenn.

Rohm & Haas Co., Philadelphia, has dissolved its associate firm, Charles Lennig & Co., as a separate corporation, but will continue the business without change under the name of the Lennig Div. of Rohm & Haas. The Lennig business was founded in Philadelphia in 1819, and was acquired by R. & H. in 1920.

Watson & Desmond, Charlotte, N. C., has been appointed sales representative for humidifiers for Walton Laboratories, Irvington, N. J. Richard V. McPhail, Gastonia, N. C. has joined Watson & Desmond, Charlotte, N. C.

Material Handlers, Inc., Charlotte, N. C., has been established by Lewis H. Fallis and J. Toms Dover, Jr., at 324½ North Tryon St. The firm is exclusive sales engineers in North Carolina for The Louden Machinery Co., Fairfield, Iowa. It is exclusive sales engineer in North and South Carolina for Samuel Olson Mfg. Co., Inc., Chicago, Ill. It is also agent and engineer for the "transmissioneered" line of Dodge ball bearings, sheaves, clutches, belts, and Dodge-Timken roller bearings.

Durant Mfg. Co., Milwaukee, Wisc., has appointed the Comer Co., 308 Ivy St., N.E., Atlanta 1, Ga., to handle the sale of Productimeter counting and measuring machines in textile and industrial fields in the state of Georgia. The Comer Co. is the sales and engineering division of the Comer Machinery Co. which has been supplying textile equipment to the trade since 1933. Durant has appointed Herndon Machinery Co., Charlotte, N. C., to handle the Productimeter line in North and South Carolina.

L. T. EDWARDS, lately manager of the London office of Oscar Kohorn & Co., Ltd., has been assigned to Oscar Kohorn (India) Ltd., at Bombay. Mr. Edwards has greatly contributed to the construction of the 11-ton filament-rayon, rayon staple, and transparent cellulose-sheeting plant his firm is now completing in Egypt.

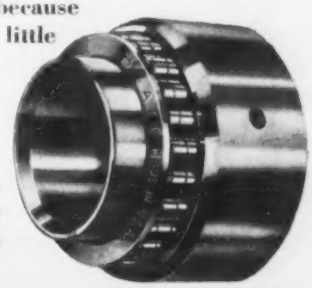
E. I. du Pont de Nemours & Co., Wilmington, Del., has appointed Cantwell Clark, who has been manager of the company's nylon plant at Martinsville, Va., since Oct. 1, 1945, to the position of nylon planning manager at Wilmington. W. Donald Hartford, manufacturing superintendent at Du Pont's Rayon Div. plant at Old Hickory, Tenn., becomes manager at Martinsville. The Du Pont company has promoted Samuel G. Baker to general manager of its Electrochemicals Dept., succeeding F. S. MacGregor, who retired after a successful career of 31 yr. Mr. MacGregor had been active in several of the company's divisions, being general manager of the Acele Dept. from 1928 to 1934 and president and general manager till 1939 of Ducilo S. A., du Pont's rayon affiliate in Buenos Aires. (Du Pont is expanding facilities at its Carney's Point, N. J., works for the production of sodium carboxymethyl cellulose, or Sodium CMC, a versatile chemical compound that can serve as an emulsifier, pro-

MY! MY!
This loom is so easy to operate it must be equipped with
HYATT ROLLER BEARINGS
RIGHT! You get bigger production with less hard work...I get higher loom efficiency*

*RIGHT! YOU CAN ALWAYS RELY ON

mill operators to do the smart thing: specify Hyatt Roller Bearings for crankshaft, cam shaft, rockershaft, take-up shaft, yarn beam and whip roll positions. *They know that Hyatts mean all-around satisfaction.*

Less than half the effort is required to set the reed correctly to the fell of the cloth; no mark in the cloth occurs . . . New looms start up easily, and settings stay put . . . Transfer of bobbins continues to be accurately made, because rockershaft bearings maintain original centers . . . Bearings require very little lubricant, and oil or grease does not leak on fabric or floor . . . Maintenance? Practically none — even after as long as 15 years of service.

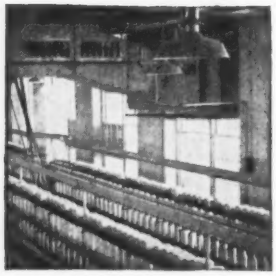


WRITE!

For information about Hyatt Roller Bearings for looms, preparatory and finishing machines of all kinds. Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.

HYATT ROLLER BEARINGS

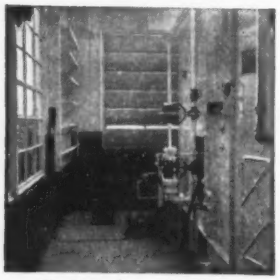
Own Your Own Weather



Air enters through Airchanger unit

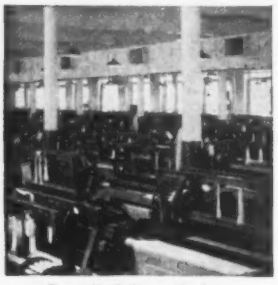
Regain higher and more dependable. Greater strength and more uniformity in numbers.

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.



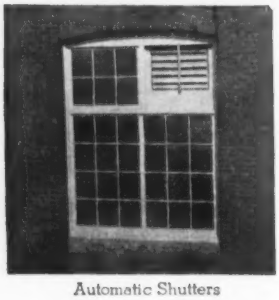
Or through central station air washer

Fewer Breaks. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.



Propelled through ducts

Better Product. And very often as much as 2% more production.



Automatic Shutters let heat out

Certified CLIMATE with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

tective colloid, thickener, sizing agent, or protective film. It may be used as for textile sizing and in dyeing and finishing as a thickener.

C. J. Osborn Co., synthetic resins, has opened a new laboratory building at Linden, N. J., and will effect centralization of all its technical resources. The New York offices of the company are at 132 Nassau St. Research on resins and pigment dispersions will be carried on with expanded facilities for service to the surface-coatings, ink, rubber, and related industries.

Brown Instrument Co., Philadelphia—Richard P. Brown, chairman of the board of Brown Instrument Co., has been made a fellow of the American Society of Mechanical Engineers. He is also a director of Minneapolis-Honeywell Regulator Co., and holds 54 patents on industrial recording and control instruments.

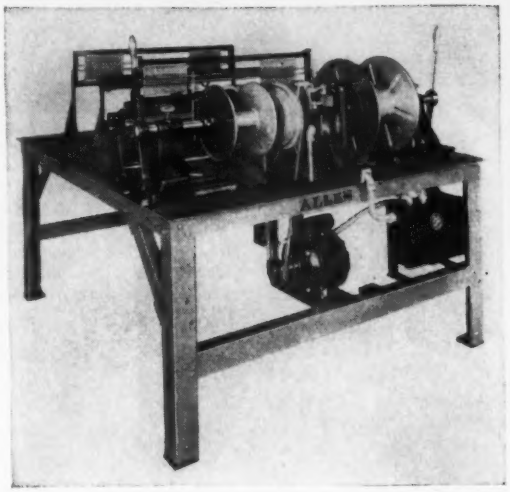
Monsanto Chemical Co., St. Louis, has appointed Roger C. Sonnemann as industrial-relations director for its plant at Everett, Mass. He joined the company in 1940 and was appointed superintendent of the sulphuric-acid department in Everett in 1946. George O. Linberg, sales manager of Monsanto's Textile Chemicals Dept., was re-elected chairman of the Northern New England section, AATCC at the recent meeting of the group in Boston. James P. Mahoney has been transferred from the company's Merrimac Div. at Everett, Mass., to the Organic Div. sales office in Chicago where he will succeed R. E. Nelson in charge of Merrimac Div. sales and sales development. Edwin L. Hobson has been named sales manager of thermoplastic molding materials in Monsanto's Plastics Div., Springfield, Mass. Richard O. Zerbe is director of the newly created development department at the Monsanto plant in Nitro, W. Va. Tom K. Smith, Jr., has been named as assistant branch manager of Monsanto's Phosphate Div., in charge of the Cincinnati branch of the division's Detroit office. Claiborne L. Barber will be transferred from sales contacts in the St. Louis area to the Organic Chemicals Div. sales

OWENS-CORNING FIBERGLAS CORP. has established a Fiberglas Building, at 16 East 56th St., New York, which in addition to housing the corporation's New York staff, serves as a demonstration of the wide range and numerous applications of glass in fiber form. More than a score of Fiberglas materials, ranging from air filters, thermal insulation batts, acoustical blankets, and acoustical tiles, to glass yarns fabricated into curtains, wall coverings, and upholstery fabrics, are used in the building, its equipment, and its interior decoration.

FRED BAUMANN has been appointed sales manager of the Textile Colors Div. of Interchemical Corp., Fairlawn, N. J. He joined the Textile Colors Div. (then Aridye Corp.) in 1938 as a technical representative and later transferred to dyestuff sales. Previously, he had been general superintendent of Susquehanna Mills, Sunbury Div., and prior to that had engaged in the textile dyeing and printing industry in different capacities. John Zelek has been named plant manager of the dyestuff department. Before he joined the division in 1945 as head of dyestuff research and development, he was with Chemical Mfg. Co. From 1938 to 1943 he was with Calco Chemical Div., American Cyanamid Co.

ALLEN Narrow Fabric Warper

winds two beams at the same time



• better quality warps • faster production • lower cost per pound

This machine is mounted on a steel table, and winds at the same time two beams, up to 15" dia. head and 10" traverse.

- Spindle Drive — Beams driven by positive friction drive — Beams stopped by means of an electric brake.
- Sheet Wind or Traverse Motion Devices (independent for each beam).
- Leese Reeds.
- Electric Stop Motion.
- Yarn Tension Devise.
- Predetermined electrically controlled counters for each beam. Back Reeds or Eye Boards.
- ¾ H.P. Motor and Electric Control Panel for automatic operation.
- Variable Speeds for different yardage per minute.

★

Cotton and Rayon Beam Warpers

Ball Warping Machines

Narrow Fabric Warpers

Intermediate Dresser Stand for Woolen and Worsted Warp Yarns

Expansion Neck Reeds

All types of Expansion, Warper, Beamer and Slasher Combs

Replacement parts for Saco-Lowell and Entwistle Warpers

★

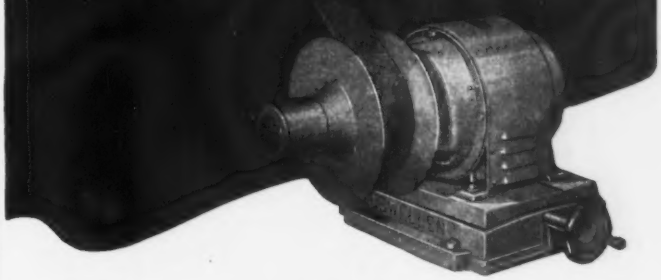
NEW BEDFORD, MASS. ALLEN COMPANY

ALLEN COMPANY

General Offices — 156 River Road New Bedford, Mass.

Representatives in all Textile Localities and all Principal Countries of the World

Watch production MOUNT



when your fixed-speed machines have Lewellen *Variable-Speed* Motor Pulleys

1 **SPEED ADJUSTABILITY.** Regulate the speed of your machines by the simple turn of a Lewellen handwheel *without stopping the machine.* Have the *right speed at the right time!*

2 **MAXIMUM MACHINE OUTPUT.** Check the rated capacities of your machines with actual production output. Often what a machine can do is simply a matter of its operation at the correct speed.

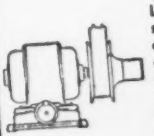
3 **PRODUCT UNIFORMITY.** Actually the lack of uniformity in materials and varying conditions in plants demand speed adjustability of production machines for uniform, quality work.

4 **UNINTERRUPTED SERVICE.** Avoid the waste of time to change belts and gears. Keep production flowing smoothly.

5 **MINIMUM SPOILAGE.** Adjust machine speeds to equal the skill of operators—change in materials, and costly rejects are reduced to a minimum.

6 **FACTORY SPACE SAVED.** Lewellen Variable Speed Motor Pulleys are compact—modern in design. Often valuable space is saved by their use.

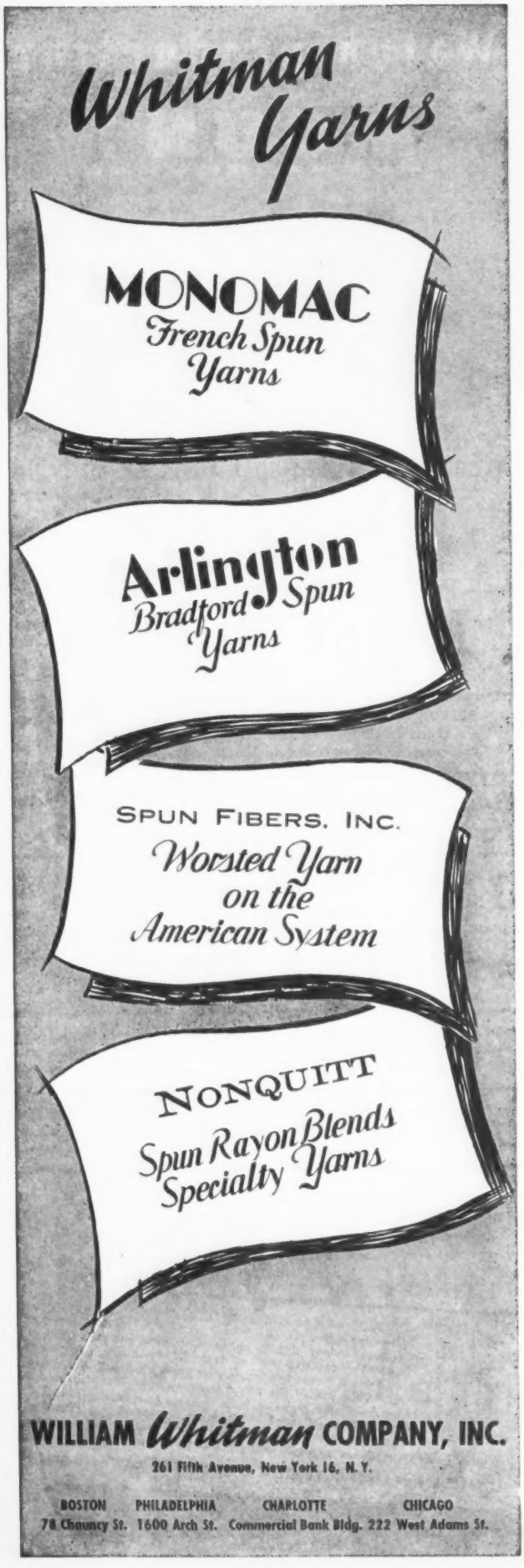
Back of each Lewellen Variable-Speed Motor Pulley is more than 45 years experience in speed-control engineering. Lewellen Variable-Speed Transmissions, Variable-Speed Motor Pulleys and Automatic Controls are in use the country over.



EXPECT REMARKABLE RESULTS! With the proper size Lewellen Pulley you can drive a machine at infinitely variable speeds; connect directly between the motor and the machine; operate the driven shaft at desired speeds. And, think what a saving it means to operate your production machines at the CORRECT SPEED! There is a Lewellen Pulley for your motor horsepower and speed, for all ratings from fractional to 7½ h.p. The speed range is 3 to 1 for all pulley sizes. (One size has a speed range of 2¾ to 1.) **Call your Lewellen representative or write today for complete information.**

LEWELLEN MANUFACTURING CO., COLUMBUS, INDIANA

★ Lewellen knows speed control



office in Houston, Tex. Howard I. Armstrong will be transferred from the St. Louis area to the company's Merrimac Div. at Everett, Mass. The Western Div. of Monsanto plans to set up a small plant at Decatur, Ill., moving to that city a portion of the company's Portsmouth, Va., facilities which manufacture glues and adhesives.

United States Testing Co., Inc., Hoboken, N. J.—The Blair Laboratory, 143 West 20th St., New York, became a division of the United States Testing Co. on Jan. 1. The Blair facilities and personnel will be transferred to Hoboken.

Allis-Chalmers Mfg. Co., Milwaukee, Wis., has appointed E. T. Cuddeback, for the last year sales representative in its Atlanta district office, to be manager of the company's Tampa district office.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed Robert O. Boden, currently serving as national president of the American Society of Training Directors, to be development director. As development director, a newly established position in Pittsburgh Plate's personnel department, Mr. Boden will develop and assist the management of the firm's 27 glass, paint, and chemical producing plants in the establishment of programs directed toward training and maximum individual development of personnel. The program will be operated especially at the supervisor and foreman level.

Reliance Electric & Engineering Co., Cleveland, Ohio, has appointed William C. Madsen as branch manager of its Gary, Ind., office, succeeding H. J. Thompson.

Pennsylvania Salt Mfg. Co., Philadelphia, has appointed Vance N. Wilson as safety coordinator. He has been supervisor in charge of tank cars in the Traffic Dept. Pennsalt's Special Chemicals Div. has appointed Albert H. Clem to a newly-created position as field sales supervisor. Philip C. Staples, Jr., with the company since 1937, will succeed Mr. Clem as product supervisor on cleaners and pickling and descaling products.

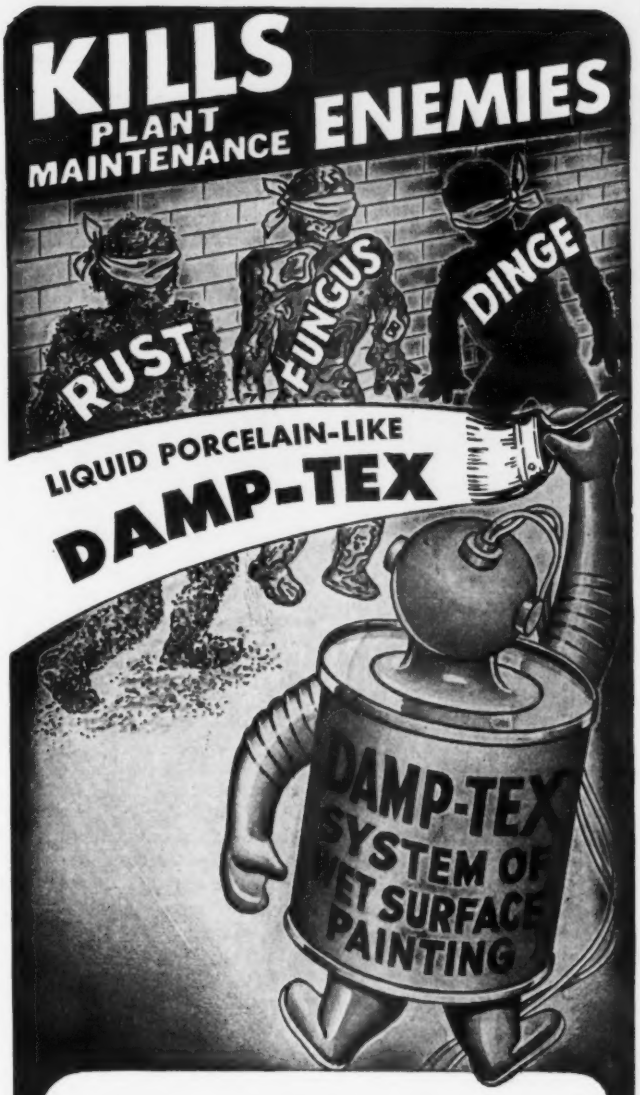
The Foxboro Co., Ltd., has officially moved into its new building in the Ville LaSalle section of Montreal, Canada. This firm, which is affiliated with The Foxboro Co., Foxboro, Mass., was established in 1933.

***J. MARK COE** has been elected vice president of Corn Products Sales Corp., New York, succeeding James H. Healey. Beginning January, 1948, Mr. Coe assumed the title and responsibilities of southern division manager. He joined the company as a retail salesman in 1926. Immediately prior to this present appointment, Mr. Coe was manager of the Kansas City office.*

General Electric Co., Schenectady, N. Y., has elected Henry V. Erben as vice president. He has been named general manager of the Apparatus Dept., largest of the seven GE operating departments. He succeeds Roy C. Muir, who retired after more than 42 yr. of service. John D. Lockton has been elected treasurer of the company, succeeding Jesse W. Lewis who retired after more than 37 yr. of service. GE has elected C. C. Walker, of Boston, a commercial vice president. Mr. Walker will assume responsibility for customer relations in the New England territory, with headquarters in Boston, succeeding T. S. Knight, who retired Dec. 31 after 44 yr. of service with the company. Since 1938, Mr. Walker has been manager of the New England sales district of the GE Lamp Dept.

United States Rubber Co., New York—John S. Krauss, a pioneer developer of the V-belt industry, has retired as manager of the L. H. Gilmer Div. of U. S. Rubber Co., Philadelphia, after 35 yr. of service. He will be succeeded by Lawrence K. Youse, former technical superintendent of the V-belt plant and recently as-

KILLS PLANT MAINTENANCE ENEMIES



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Damp-Tex super-enamel can be applied to surfaces despite moisture, heat, fumes and many other extreme conditons. Its water-proof film retards deterioration, increases efficiency, turns depressing, dingy interiors into gleaming, porcelain-smooth beauty. Resistant to fungus, 2% caustic solution, steam and lactic acid. One coat covers. Comes in white and colors. Used in over 4000 plants. Write for our trial offer.

Proved Fungus Resistant by FUNGUS TEST

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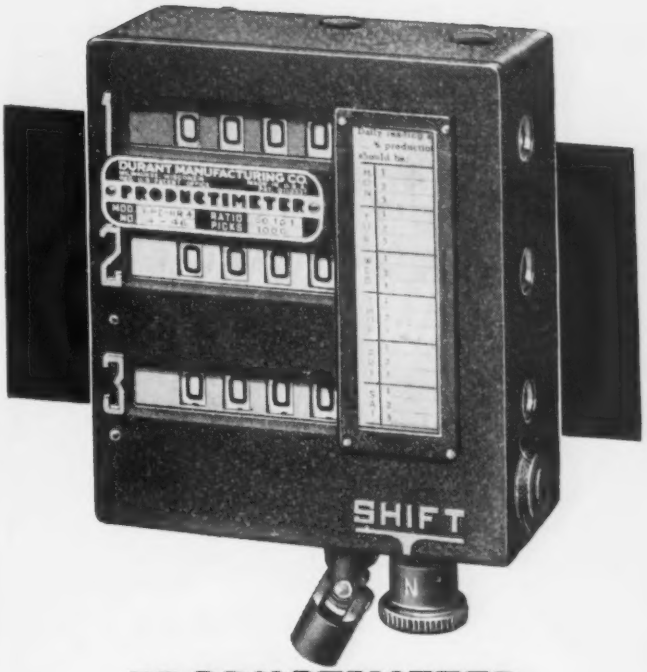
STEELCOTE MFG. CO. • ST. LOUIS, MO.

Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada



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LOOM PICK COUNTERS

Register exact production of each weaver on each 8-hour shift

Plan now to install them on your looms and benefit from the many advantages offered . . . All three shifts in one housing, just turn the knob and counter is ready to register the pick count for the next shift . . . Shutter mechanism makes tampering impossible, prevents "build-up" of production figures . . . Center drive permits application on any loom, right or left side . . . Made in 3 and 4 figures capacity . . . Reset or non-reset . . . for 2 and 3 shifts.

TEXTILE CATALOG
No. 50
Sent on Request!

Illustrates and describes Pick & Hank Counters, Lineal Measuring Units, Revolution, Stroke, Electric and Predetermined Counters.

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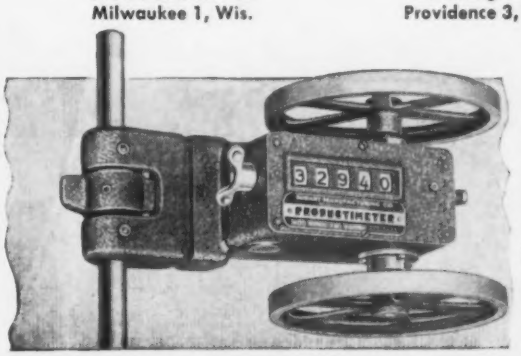

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Model 5-T-90-1 Lineal . . . Measures full yards.

COMMONWEALTH
COLOR & CHEMICAL CO.

More than thirty years' experience in the manufacture of Chemical Specialties, Dyestuffs and Dyewoods for the Textile and Allied Trades

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sistant manager. Mr. Krauss started his career in 1912 as an assistant to L. H. Gilmer.

Raybestos-Manhattan, Inc., Manhattan Rubber Div., Passaic, N. J., has appointed P. L. Edwards as assistant manager of its central-district office in Pittsburgh. Mr. Edwards, who has been manager of the Products Div. of Manhattan's western-district office, started with the company 29 yr. ago as a clerk in the Chicago office.

Pioneer Atlanta Co., Atlanta, Ga.—J. Canty Alexander has resigned from the sales force of Corn Products Sales Co. to accept a position with the Pioneer Atlanta Co., Inc. He will make headquarters in Atlanta, Ga., and handle sales to the textile industry in South Carolina, Georgia, and Alabama. Mr. Alexander has been with Corn Products Sales Co. for 24 yr.

Wyandotte Chemicals Corp., Wyandotte, Mich., has added Marvin S. Carr and Russell A. Kaberg to the staff of its development department. Dr. Carr will serve as assistant to the director of development. Mr. Kaberg will be a field representative in connection with the various organic chemicals that are being developed. Paul Weller has been appointed director of market research for Wyandotte succeeding Melvin E. Clark, now one of the firm's sales managers.

Bocon Chemical Corp., New York, has elected John B. Wathey as vice president in charge of research and development. He was formerly with Wilbert Products Co., and earlier he was chief chemist at Cranston Print Works. He will concentrate on the firm's Boconize, a mothproofing compound.

National Technical Laboratories, South Pasadena, Calif., manufacturers of Beckman pH instruments, spectrophotometers, etc., has expanded its facilities in a recently completed addition to its offices and plant which gives new floor space in excess of 27,000 sq. ft.

Elwell-Parker Electric Co., Cleveland, Ohio.—Ray Perin, of the Ira G. Perin Co., for 35 yr. the west-coast representative for Elwell-Parker trucks, has been elected president of the 14-yr.-old Materials Handling Association of Northern California.

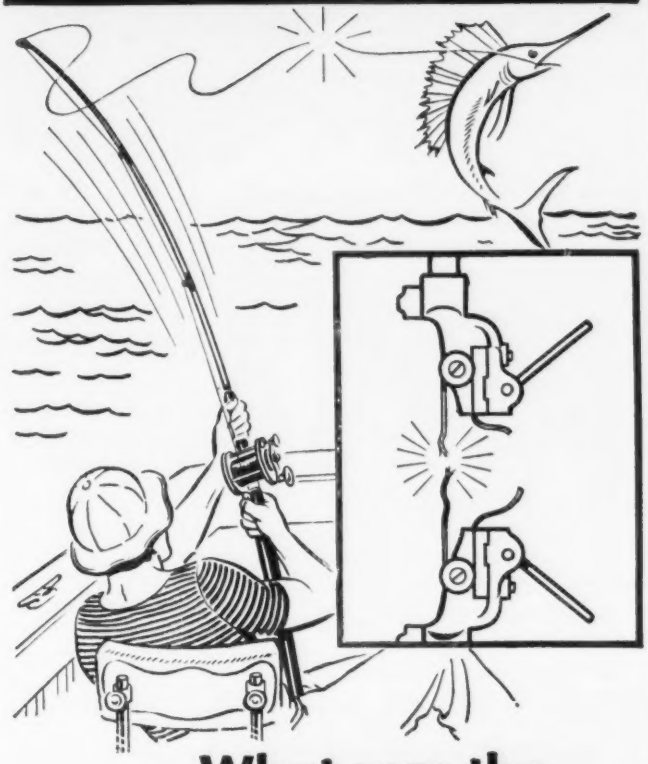
CARL W. HARRIS, of Hingham, Mass., has been appointed New England sales representative by Eriez Mfg. Co., Erie, Pa., producers of permanent magnetic separating equipment. He is a graduate engineer of MIT and was formerly associated with Allis-Chalmers and Halifax Machine Co.

Westinghouse Electric Corp., Pittsburgh, Pa., plans to double its production of air-conditioning equipment in 1948. The decision to expand manufacturing schedules is based on estimates of the continuing high demand for both comfort and industrial-process air-conditioning products and systems according to A. J. Bronold, who heads Westinghouse air-conditioning activities in the company's Sturtevant Div.

The B. F. Goodrich Co., Akron, Ohio, has named several sales-department heads in its recently created Plastic Materials Sales Div., as follows: E. L. Byan, manager of sales for coated fabric, calendered sheet, and coated-wire products; William M. Gaston, manager of distributors' sales; R. L. Hill, manager of sales for extruded and molded products; and N. P. Singleton, manager of sales for cast and calendered film, coated paper, and packaging material.

Bakelite Corp., a unit of Union Carbide & Carbon Corp., New York, is arranging for the expansion of facilities for production of all plastics and resins marketed by the corporation by 50 to 60%. On individual products, increases will range from 30 to 400%. The program includes construction of three new plants and expansion at three of the corporation's existing plastics-producing plants and will be completed during 1948.

TESTED IS TRUSTED



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"Adequate Testing Always Pays"

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Standard of the World

"Here's What We Want in a Dyebox,"

said Textile Dyers

1. Less time for loading, heating, lacing, doffing, cleaning.
2. Greater saving of steam and water.
3. Production of cleaner, higher quality work.

And Here's the Box We Designed

As specialists in fabricating stainless steel textile equipment, we present this new dyebox for quality dyeing. It assures all the time and money savings that dyers demand in new equipment — all the convenience of an open type box combined with the advantages of a fully enclosed box.

The NEW BLICKMAN DYEBOX

Stainless Steel and Fully Enclosed

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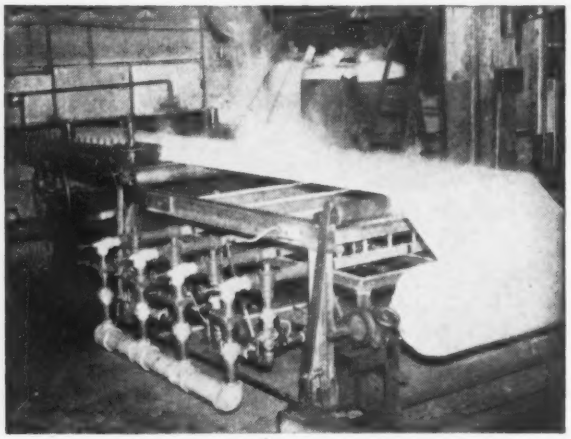
Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, rolls, hoods, tanks



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Albany 1, New York

NEWS ABOUT Mills

Cotton Mill News

Anniston Mfg. Co., Anniston, Ala., is expanding plant to increase weaving facilities. Daniel Construction Co., Birmingham, Ala., and Greenville, S. C., is general contractor for project. Work includes new Babcock & Wilcox steam boiler and smokestack, and new building for grease and paint shop. Weave-room addition has been completed and 68 new looms have been added. Former weave room has been converted to winder and warper room. New slasher room has been completed with installation of additional slashers, cooking kettle, and size pump. Installation of nine new 240-spindle roving frames is planned for near future.

Aragon-Baldwin Cotton Mills, Whitmire, S. C., has work going forward on addition that will cost about $150,000, with equipment.

Balston Mills, Lincolnton, N. C., is now installing modern spinning equipment.

Beaumont Mfg. Co., No. 1 Mill, Spartanburg, S. C., is progressing rapidly on installation of 80 new looms. Other recent installations include six new twister frames.

Berkshire Fine Spinning Associates, Providence, R. I., has accepted bids for $250,000 housing development consisting of 22 one- and two-story duplex houses. Plans are by Bernard J. Harrison, 1100 Turks Head Bldg., Providence.

Calvine Mill, Charlotte, N. C., purchased from Textron Southern, Inc., by Leading Embroidery Co., North Bergen, N. J., plans expansion program that will cost $300,000. Addition to plant, containing about 9,000 sq. ft. of floor space, will be constructed, and additional spindles installed.

Dottie Lou Mills, Inc., Statesville, N. C., closed since last summer, will be reopened under two-year lease by Bev-Wynn Products Co. Plant will be operated as yarn manufacturing unit under the direction of Carl H. Cox, formerly of Newton, N. C., now vice president and general manager of Red Bank Mills, Lexington, S. C.

Hathaway Mfg. Co., New Bedford, Mass., has started work on addition and alterations to weaving building No. 1 from plans by DesGranges & Staffian, 185 Devonshire St., Boston, Mass.

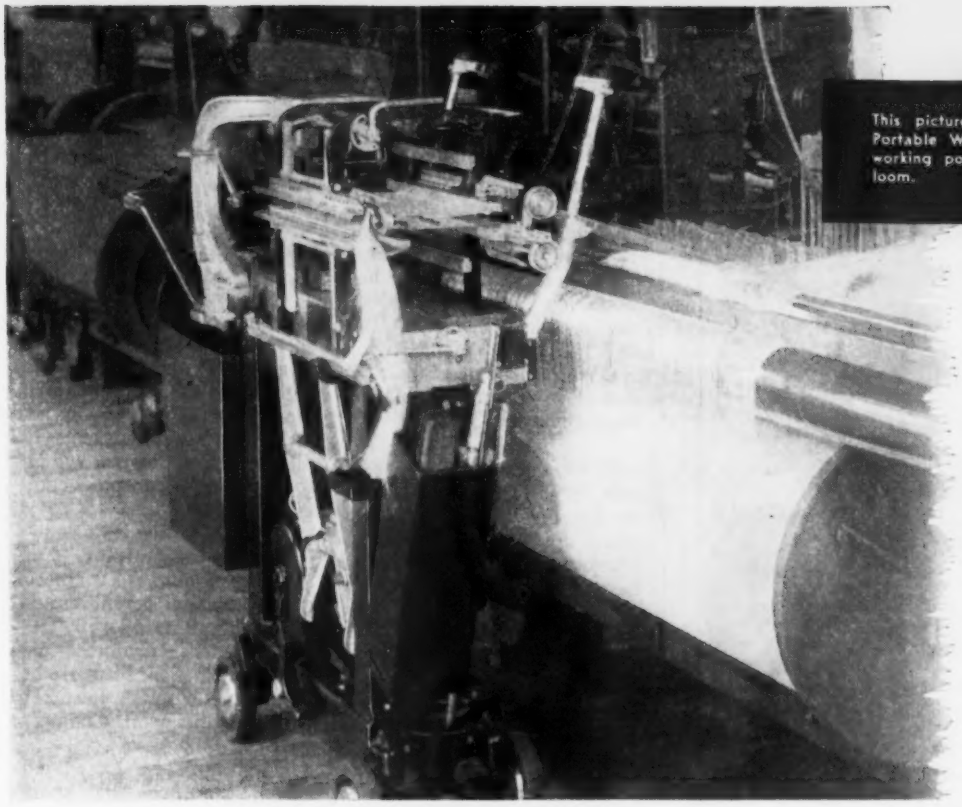
Industrial Cotton Mills Co., Rock Hill, S. C., capitalized at $1,491,200, has been purchased by J. P. Stevens & Co., New York, N. Y.

Judson Mills, Greenville, S. C., is building addition between existing buildings at plant to be used for rearrangement of equipment in dye house and utility building. Lockwood Greene Engineers, Inc., Spartanburg, is in charge.

Leward Cotton Mills, Inc., Worthville, N. C., has been purchased by R. S. Dickson & Co., Charlotte, at a price of over $1,000,000. Mill is equipped with 9,984 spindles, 265 looms, and manufactures drills and narrow sheetings. There will be no change in policy, management, or employees, since properties were purchased for investment. O. R. Blalock of Worthville will continue as vice president, treasurer, and general manager.

Limestone Mills, Gaffney, S. C., is installing 100 new looms and adding new drawing frames in card room. This is part of modernization and expansion program under way at both Limestone and Hamrick mills, recently purchased by M. Lowenstein & Sons, Inc., New York, N. Y.

Mooresville Mills, Inc., Mooresville, N. C., is constructing $500,000 plant addition and has purchased $700,000 worth of machinery for production of wool and synthetic yarns.



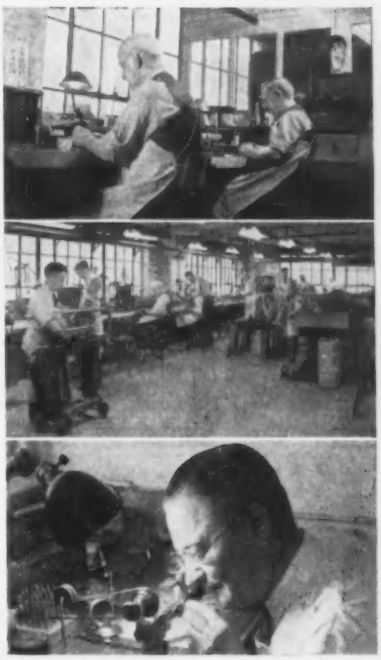
This picture shows a Barber-Colman Portable Warp Tying Machine in the working position, directly behind the loom.

BARBER-COLMAN WARP TYING MACHINES ARE BACKED BY 40 YEARS OF EXPERIENCE

DESIGN. Shortly after the turn of the century, Barber-Colman introduced several machines which have proved to be outstanding contributions toward improvement in the textile art. Among them is the Portable Warp Tying Machine, specially designed to work directly back of the loom. This machine is so light in weight as to be easily and quickly transportable from loom to loom throughout the weave shed.

REPAIR PARTS. As on any machine, certain parts in time show wear and must be replaced. Modern manufacturing methods set up standards and tolerances for the making of these parts so that any replacement is exactly interchangeable with the original piece. Barber-Colman Company maintains a skillfully-staffed department to make and stock those units which, experience shows, are in most demand. In addition, supplementary stocks are maintained at the company's branch offices to provide best-possible delivery from strategically-located centers.

SERVICE. No machine made can function without Service. Experienced Service Men must be available to explain and demonstrate the working of the machine when it is delivered, and must be on call if trouble develops to determine the cause of any failure, make necessary adjustments, and revitalize the productive functions of the machine. There are Barber-Colman men ready and willing at all times to answer promptly any call for assistance, and to make sure that Barber-Colman machines are on the job as near 100% of the time as possible.



These pictures, taken in the Barber-Colman plant, show a few of the skilled mechanics whose experience and aptitudes contribute vitally to the quality and performance of Barber-Colman machines.

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BARBER-COLMAN COMPANY

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NEWS ABOUT MILLS

Oconee Mills, Inc., Westminster, S. C., has completed work on three-story addition and has installed machinery in part of building. Addition includes 80,000 sq. ft. of manufacturing space and increases plant area by one-third. When machinery is completely installed, mills will employ about 750. T. Henry Wood is general manager of plant which is owned by Beacon Mfg. Co., Swannanoa, N. C.

F. W. Poe Mfg. Co., Greenville, S. C., has been acquired by Ely & Walker, St. Louis, Mo., dry goods wholesalers. Operations will be continued as heretofore. Price was reported as $5,725,650, or $410 per share.

Proximity Mfg. Co., Greensboro, N. C., has completed installation of new 10,000-kilowatt turbine in White Oak Mill power plant. New General Electric equipment, which generates 13,800 volts, is tied to main system that serves all Cone mills in Greensboro.

Ragan Spinning Co., Gastonia, N. C., subsidiary of J. P. Stevens & Co., Inc., New York, N. Y., will construct addition to mill at cost of $150,000 to $175,000. Biberstein & Bowles, of Charlotte, is architect and engineer; and V. P. Loftis, also of Charlotte, has contract. Program will add 10,000 sq. ft. of space to card and picker rooms, new machine shop, three new offices, and new switch gear room.

Riegel Textile Corp., New York, N. Y., has taken possession of yarn mill at Fork Shoals, S. C., after completion of purchase arrangements undertaken during last month with Virginia Mfg. Co. Fork Shoals mill, located 20 miles northwest of Ware Shoals, S. C., has 4,400 spinning spindles. Riegel will continue operations at Ware Shoals.

Riverpoint Textile Co., Inc., West Warwick, R. I., has been incorporated with capital of $100,000 to manufacture cotton goods. Edward F. Began, 61 Daniel St., Pawtucket, R. I., is principal incorporator.

Shuford Mills, Inc., Hickory, N. C., has purchased Dudley Shoals Cotton Mill Co., Granite Falls, N. C. Purchase price was not disclosed. Plans are already under way for remodeling Dudley Shoals plant and for installing new equipment in mill as soon as machinery can be obtained.

Wool Mill News

Bigelow-Sanford Carpet Co., Inc., New York, N. Y., has spent over $3,000,000 in postwar plant improvements to date and plans to spend even greater sum in 1948 on additions and improvements to plant. Part of program will be to equip mills for production of wide goods.

Sidney Blumenthal & Co., Shelton, Conn., has been granted building permit for new processing unit, 50 x 300 ft., one-story, of reinforced-concrete construction. Plans are by Fletcher Thompson, Inc., 211 State St., Bridgeport, Conn.

Duesberg-Bosson Corp., Jefferson, Mass., is establishing woolen mill with machinery imported from Belgium.

Fitchburg Yarn Co., Fitchburg, Mass., is putting in additional unit for production of worsted yarn on American system; and when new equipment is in operation, production of worsted yarns will be approximately 65,000 lb. per week.

Hillandale Hand Weavers, Inc., Pomfret Center, Pomfret, Conn., has recently organized and lists following officers: president, Howard Pierce; secretary, Amy Anderson; vice president, William S. Hodde.

J. P. Stevens & Co., Dublin, Ga., is progressing rapidly on construction of $6,000,000 woolen mill, to be ready for production some time next year. Col. John P. Baum of Atlanta, Ga., will be manager.

Textile Weavers Ltd., Grand-'Mere, Que., will complete extensive plant expansion program early in 1948. Program has entailed expenditure of over $1,000,000 in buildings, new machinery, and equipment. Completion of buildings will permit expansion of dyeing and finishing division. Machinery to be installed includes Curtis & Marble picker, two additional Whitin frames, each with 120 spindles, and new Davis & Furber warpers.

Wanskuck Co., Providence, R. I., has roof on new addition to wool storage building on

Style 20

LANE

The IDEAL BASKET for

LOOPERS

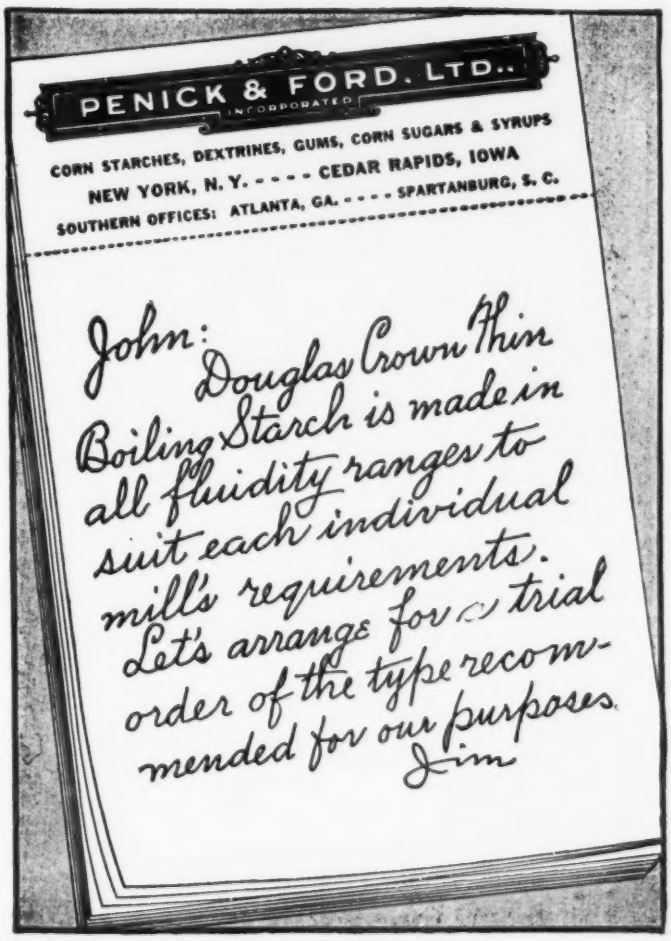
SEAMERS

RIBBERS

GENERAL

W. T. LANE & BROS., INC.

Manufacturers : POUGHKEEPSIE, N. Y.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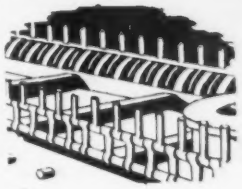
INCORPORATED
CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS
NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.
John:
Douglas Crown Thin Boiling Starch is made in all fluidity ranges to suit each individual mill's requirements. Let's arrange for a trial order of the type recommended for our purposes.
Jim

Money-Saving Maintenance Cleaning for the Textile Industry



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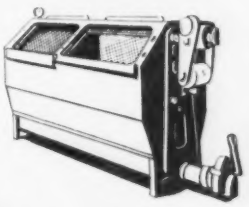

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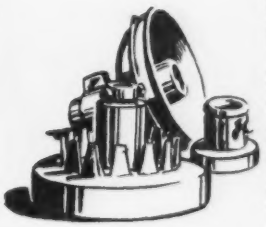

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That's just a Sample!

Get the full details on those three jobs and sixty-three more in the Oakite Textile Mill Cleaning Digest. You'll save cleaning dollars! Just drop us a card and we'll send you a free copy.

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Technical Service Representatives in Principal Cities of U. S. & Canada

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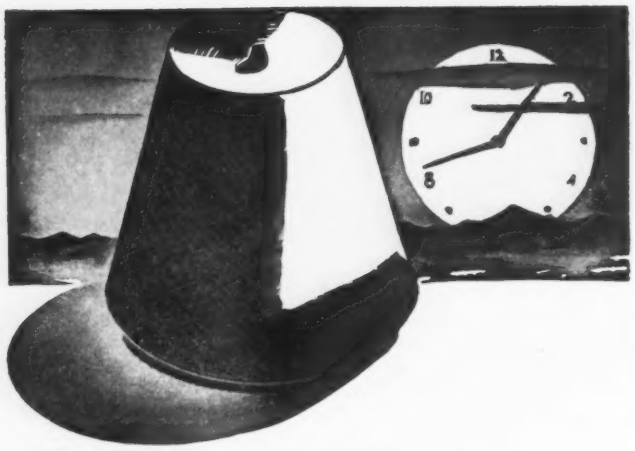
Specialized Industrial Cleaning
MATERIALS • METHODS • SERVICE



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YARN DIVISION OF AMERICAN THREAD CO.
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GREENVILLE, SOUTH CAROLINA

Wilder St. The Rust Construction Co., 260 Central Ave., Pawtucket, will install electrical system; and Grinnell Corp., Providence, will install sprinkler system. Rowley Construction Co., Pawtucket, is general contractor. Estimated cost, $144,000.

William Whitman Co., Lawrence, Mass., plans to spend nearly $5,000,000 to improve equipment, machinery, and general working conditions. Program will improve power equipment, conveyors, and other materials-handing equipment. Carding and combing machinery will be replaced and spinning machinery will be modernized.

Rayon & Silk Mill News

Belding Heminway Corticelli Co., Morristown, Tenn., new throwing plant, is about ready to begin operations. J. A. Emenheiser is general manager.

Butterfly Rayon Mills, Paterson, N. J., has started installation of 100 50-in. automatic Draper looms in new quarters constructed by Wright Aeronautical Co. during the war and leased from Webb & Knapp.

Bur-Green Fabrics, Inc., Greensboro, N. C., manufacturers of rayon goods, has completed installation of machinery for initial phase of operations.

Canadian Celanese Co., Ltd., Sorel, Que., will complete its $1,000,000 plant this month. Machinery is now being installed and production will get under way shortly. Plant will eventually employ 750.

Cupranium Corp. of America has purchased U. S. Rayon Corp., Danielson, Conn. Purchasing company is buying machinery and business of U. S. Rayon Corp., and will lease plant in Danielson from firm to make rayon yarn on cuprammonium process. Jack Price, New York, N. Y., is president of new concern. Dr. Arthur Mothwurth, also New York, will be rayon yarn engineer, and Dr. Stephen Kotcher will be chief chemist.

Deering Milliken & Co., Inc., and **Pacolet Mfg. Co.**, have selected site for new $4,000,000 mill one mile from Pendleton, S. C. Mill will produce filament-rayon crepes and combination-yarn fabrics. Machinery, which has been on order for some time, will be of new design. New mill will be one-room, one-floor (with exception of offices), windowless, and will contain 165,000 sq. ft. of space. Mill will be air-conditioned and refrigerated to maintain year-around temperature of 70° F., and fluorescent lighting will be provided. Daniel Construction Co., Greenville, S. C., and James T. Wardlaw, treasurer of Drayton Mills, will do engineering.

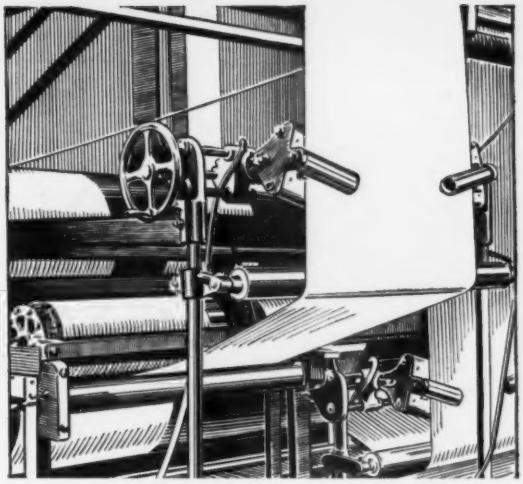
Goodman & Theis, Inc., Scranton, Pa., has let contract to Keystone Engineering & Construction Co., Old Forge, Pa., for new one-story mill, 130x150 ft., at Taylor, Pa. Cost reported over $125,000.

Griswold Mills, Voluntown, Conn., has completed new plant and is now installing machinery. Joseph Bailes is plant manager; R. N. Welwood, superintendent of yarn division; and W. J. Morrissey, superintendent of dyeing and finishing.

Nashua Mfg. Co., subsidiary of Textron, Inc., will operate all northern sewing plants, as well as mills and other business presently operated by parent company, and corporate name of Nashua will be changed to Textron, Inc. New York will remain as headquarters of combined staff; but principal office of Textron, Inc., outside of Providence, R. I., will be Nashua, N. H.

Palestine Rayon Corp., incorporated under Rhode Island charter in 1946 with capital of $5,300,000, will build $3,000,000 plant in Rehavia, Palestine, to produce viscose-rayon filament and staple. Leo Rosenstein, 178 Auburn Rd., West Hartford, Conn., heads company. He was formerly with Roosevelt Mills, New York, N. Y. Proposed Rehavia plant will be two-story, with 125,000 sq. ft. of floor space. Construction will cost $2,000,000 and equipment will cost $1,000,000. Production is estimated at 2,500,000 lb. per year minimum, and will begin in 1949.

Saran Yarn Co., subsidiary of Dow Chemical Co., Midland, Mich., will begin erection of one-story plant at Odenton, Md., for manufacture of yarn and staple.



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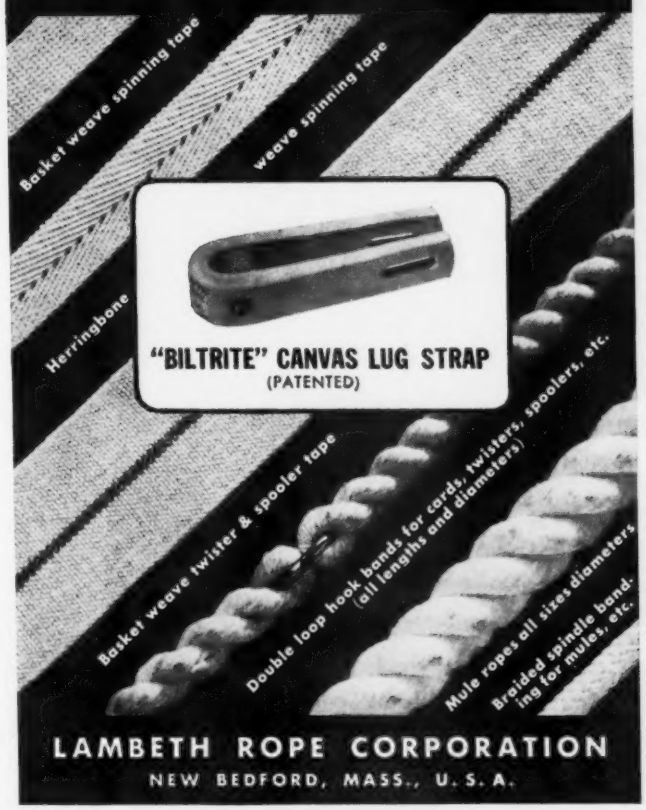
Basket weave spinning tape
weave spinning tape
Herringbone
"BILTRITE" CANVAS LUG STRAP
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Basket weave twister & spooler tape
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Mule ropes all sizes diameters
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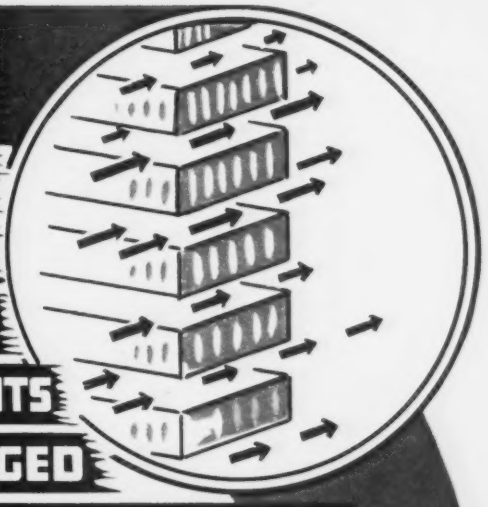

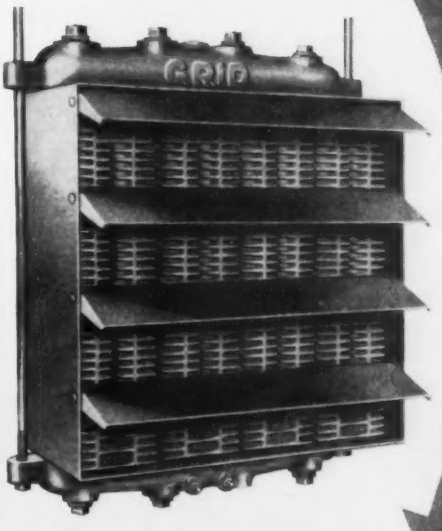

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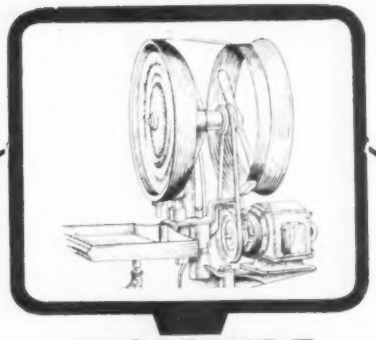

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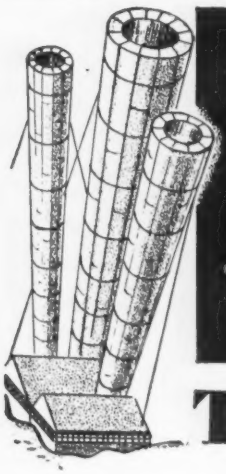

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Tennessee Eastman Corp., Kingsport, Tenn., has leased Holston Ordnance Works, Kingsport.

Verney Corp., Fall River, Mass., has sold property including 30,000-spindle mill. Company has transferred some machinery to other company plants, but the remaining equipment and building was sold to the Crescent Corp., Fall River.

Visking Corp., Chicago, Ill., has begun production of "Viskon," a bonded-web fabric, at recently completed, million-dollar plant at North Little Rock, Ark.

Knitting Mill News

Caldwell Full-Fashioned Hosiery Mills, Inc., has construction work under way at Lenoir, N. C., on new building. Pennell & Haigler, Lenoir, is contractor; and plans were drawn by Coffey & Olsen, also of Lenoir. New building will be two-story, and of brick and cinder-block construction. It will be 80x99 ft., and will be built to permit future expansion. Construction probably will be completed next spring. New building and 10 full-fashioned hosiery knitting machines will cost around $400,000.

Carrollton, Ga.—T. J. Lawler, local mill executive, is owner of new mill that is now producing 1,500 doz. pairs of women's and children's anklets per week.

Cormier Hosiery Mills, Inc., Laconia, N. H., has purchased hosiery mill operated by Albert Lucier at Belmont.

Dobson Hosiery Mill, Pulaski, Va., has been sold to J. Edward Sadler and an unnamed associate. James C. Dobson, who organized Dobson-Miller Corp. at Pulaski in August, 1927, later acquired all stock in firm now known as Dobson Hosiery Mills.

Grand'Mere Knitting Co., Ltd., Grand'Mere, Que., is moving into recently completed two-story, 158x300-ft. building. Machinery will be installed for production of fine-quality knitted sweaters, berets, and wide variety of knitted wearing apparel. Firm is now employing 350.

Heist-McCain Hosiery Corp., Rockwell, N. C., is scheduled to start operations in immediate future. Machinery is now being installed in two buildings, one 55x30 ft., and other 33x29 ft. Plant will finish gray goods knit by Surratt Hosiery Mills, Jackson Hill, N. C.

Holeproof Hosiery Co., Marietta, Ga., plans to occupy new addition by Jan. 1. Addition will cost $150,000, and will add 35,000 sq. ft. to floor space.

McCutcheon Knitting Mills, Toronto, Canada, has been formed by purchase of the McCutcheon Hosiery Mills, Guelph, Ont., and Hayward Knitting Mills, Toronto. Joseph Granatstein is owner.

Pilot Full-Fashion Mills, Inc., Valdese, N. C., is engaged in expansion and improvement program that will necessitate expenditure of $1,200,000 before the work is completed early next summer. Most of work is being done inside present structure, but 60x80-ft. warehouse is being added. Also new two-story brick and steel building is being erected, with the first floor to house a new air-conditioning system, and the second floor to serve as an addition to throwing plant. Knitting department is being enlarged with additional room. New 51- and 54-gage knitting machines are being installed. Other recent improvements include public-address system for entire plant which serves to carry music during working hours, and modern cafeteria for employees.

Princeton Knitting Mills, Watertown, Conn., has commissioned Willard Wilkins, 957 Asylum Ave., Hartford, Conn., to prepare plans for extensive alterations to mill.

Quinter Hosiery Mills, Inc., Ephrata, Pa., recently incorporated, has started production on limited scale. When mill is completed, it will be equipped with twelve 51-gage machines.

Chester H. Roth Co., New York, plans $1,000,000 expansion program at its hosiery mills at Burlington, N. C.

Standard Hosiery Mills, Burlington, N. C., plans to spend $1,000,000 in enlarging plant and on new machinery. A

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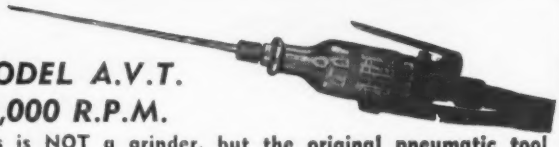

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large number of 51- and 54-gage full-fashioned machines are now being ordered.

Waldensian Hosiery Mill Co., Valdese, N. C., is completing new mill in Lenoir, N. C., and plant is expected to get into production early in January. Minimum of 200 knitting machines, together with loopers and other equipment, will be installed for initial operations.

Van Raalte Co., North Tonawanda, N. Y., is establishing branch plant in Silver Creek, N. Y. Company has purchased three-story structure in Silver Creek and will convert into mill that will employ between 150 and 200. Production of silk gloves and underwear is expected to begin by middle of February. Van Raalte is also negotiating for building in Dunkirk, N. Y., that will permit further expansion of operations there.

Dyeing & Finishing Plant News

American Textile Co., Pawtucket, R. I., is awarding separate contracts for construction of finishing plant. Work is now under way for one-story brick and steel unit, 65x215 ft., that will cost $85,000. J. J. Bodell is president of company.

Arnold Print Works, North Adams, Mass., has completed installation of $250,000 power plant, including new building, boiler, and coal conveying equipment to replace six hand-fired boilers.

Arglen Textile Printers, Inc., Providence, R. I., has been chartered with incorporators consisting of Edwin O. Halpert, Thomas E. Harding, and Mary Gervais, Pawtucket, R. I., for manufacturing and dealing in all kinds of printed and dyed textile fabrics.

Burlington Mills Corp. has started remodeling New River Ordnance plant at Dublin, Va., and will install dyeing and finishing equipment. Burlington hopes to start operations on small scale early in spring.

Dickison Pile Fabric Corp., Lowell, Mass., is being organized to do pile-fabric commission finishing business. Building has been purchased and machinery already on order is expected to be available to start operations on or about Mar. 1.

Duchess Bleachery Inc., Wappingers Falls, N. Y.,—Stockholders have voted to accept purchase offer of Lockwood Co., Waterville, Me. It is understood that Lockwood Co. will pay $450,000, plus value of inventories, for bleachery.

Fairforest Finishing Co., Spartanburg, S. C., has completed finished-goods warehouse of reinforced concrete, one-story, and having 30,000 sq. ft. floor area. Designs and supervision of construction of project were furnished by Lockwood Greene Engineers, Inc., Spartanburg.

Lowell Bleachery South, Inc., Griffin, Ga., is building addition to plant of Dundee Mills at Experiment, Ga., so that Dundee dye plant may be moved there from East Griffin, Ga. Bleachery and new dye plant should be in operation in April, 1948. Plants are to add $300,000 worth of new equipment.

National Dyeing & Finishing Corp., Los Angeles, Calif., plans news plant to be built on 2½-acre site on Hayden Ave., Culver City, Calif. Cost, including equipment, will be in excess of $500,000.

Norwich Knitting Co., Norwich, N. Y., plans establishment of finishing plant at Clayton, W. Va. Plans are to have plant in operation early in 1948.

Queen Dyeing Co., Providence, R. I., has nearly completed first phase of two-part expansion program. Building No. 8 has been reconstructed and half of new area will be used for white goods drying room. Second half of program involves providing space for black dyeing, soaping, and napping. Lockwood Greene Engineers, Inc., is engineer.

Triangle Textile Dyeing & Finishing Co., Paterson, N. J., has bought plant and equipment of Bon Dyeing & Finishing Co., same city, and has begun operations under new management. Joseph Gregory is president; Fred Horowitz, formerly of Pilgrim Piece Dye Works and U. S. Finishing Co., vice president; and Murray Edreich, secretary-treasurer.

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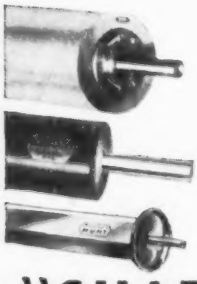

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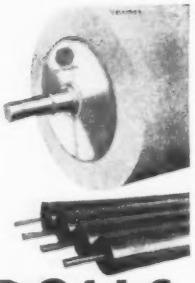

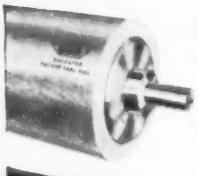

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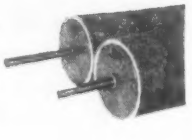

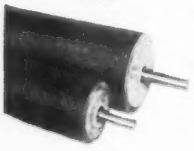

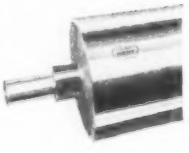

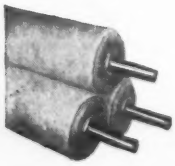

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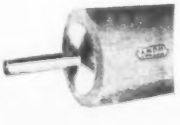


NEWS ABOUT *Men*

Ernest G. Glaesel has been elected chairman of board and **Alfred Schwarzenbach,** president, of Schwarzenbach, Huber Co., Union City, N. J. Other officers elected were **Robert J. Schwarzenbach,** first vice president in charge of technical operations; **Walter J. Braun,** second vice president and assistant to **Robert Schwarzenbach** in charge of mill and throwing operations; **Otto Froelicher, treasurer;** and **G. W. Betts, Jr.,** secretary.

H. M. Kaiser, president of May McEwen Kaiser Co., Burlington, N. C., has also been named treasurer of company, and **John B. Hereford, Jr.,** will be his assistant. **M. Kent Pate,** foreman of knitting department, has been promoted to superintendent of May plant to succeed **J. T. Welch,** who has been named general superintendent of all knitting plants and assistant to **J. P. Kelly,** vice president and general manager. **W. H. Holderness** has been elected secretary of company.

J. Spencer Love, formerly president and treasurer, has been elected chairman of the board and of the executive committee, by the directors of Burlington Mills Corp., Greensboro, N. C., as previously reported. **J. C. Cowan, Jr.,** vice president, has been elected president. **C. Eugene Rowe,** controller general, has been named treasurer. Other promotions include the naming of three assistant vice presidents, **Charles F. Myers, Jr., W. Bailey Sellars,** and **J. Saunders Williamson.**

Thomas J. Kennedy, of Larchmont, N. Y., vice president of Berkshire Fine Spinning Corp., Providence, R. I., has been elected a director of the company.

Philip H. Southwell has been elected president of Providence Wool Combing Co., Providence, R. I., to succeed **T. W. Jenks,** who has been named treasurer. Mr. Southwell is treasurer of Southwell Wool Combing Co., North Chelmsford, Mass.

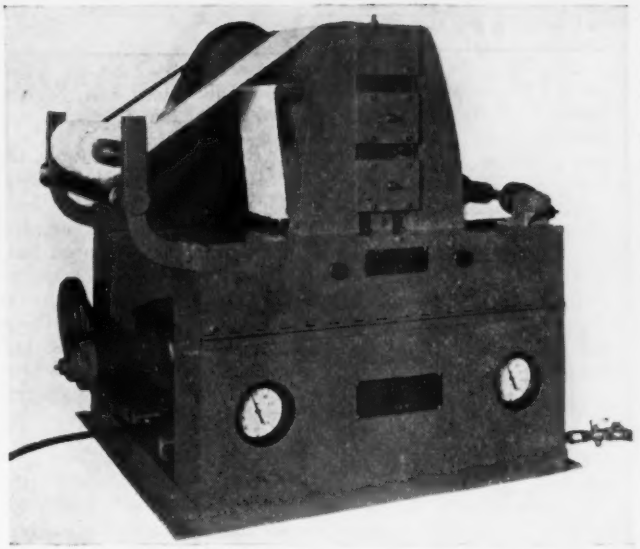
G. R. West, former president, has been elected chairman of board of Dixie Mercerizing Co., Chattanooga, Tenn. Other promotions include: **J. Burton Frierson, Jr.,** formerly vice president, to president; **B. P. Barnes,** formerly superintendent of mercerizing plant, to vice president in charge of finishing operations; **Eugene W. Hill,** formerly superintendent of spinning mill, to vice president in charge of spinning operations; **Arthur K. Johnson,** formerly treasurer, to vice president in charge of sales; **John B. Thompson,** formerly assistant secretary, to secretary and treasurer; **Edmund C. Chodd,** controller. **Robert Cochran** becomes assistant general manager; **F. O. Hallman,** manager of cotton department; **C. E. Rollins,** superintendent of finishing; **Lynwood Wilkey,** superintendent of spinning; and **Walter W. Logan,** assistant secretary.

Joseph L. Lanier, executive vice president of West Point Mfg. Co., has been elected president of Columbus Mfg. Co., Columbus, Ga. **Forbes Bradley** has been elected vice president; **Carlton R. Richmond,** treasurer; and **E. C. Hunt, secretary.**

Louis W. Conover has been elected director of Susquehanna Mills, Inc., Sunbury, Pa. He will continue in his present capacity as secretary and treasurer of company.

Paul E. Crocker, formerly vice president and controller of the Pepperell Mfg. Co., Boston, Mass., has been named treasurer of company succeeding **Russell H. Leonard** who remains as president. **Edward W. Manning** becomes controller; and **Lindsay Dexter,** former assistant treasurer of Nashua Mfg. Co., Nashua, N. H., becomes assistant to **Brackett Parsons,** vice president in charge of manufacturing.

Timothy Gibson has be-



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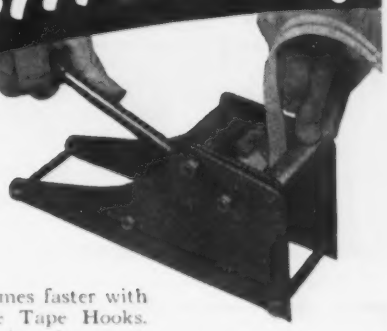
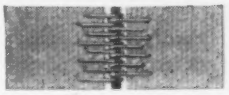


SPINDLE TAPE
LACING EQUIPMENT



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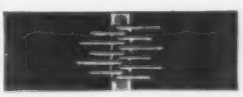

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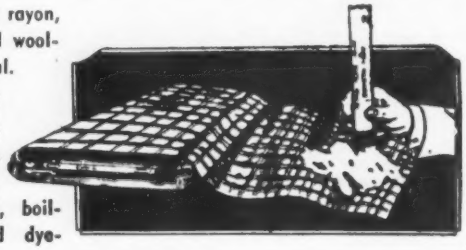

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come a vice president and sales manager of Raytex Dyeing & Printing, Inc., with headquarters at 1450 Broadway, New York, N. Y. He resigned from similar position with United Piece Dye Works to take over new duties. He had been with that company for the last 5 yr. and previously with Sayles Finishing Plants, Inc., for 25 yr. Mr. Gibson will also be a partner in Raytex firm.

W. Stanley Hill, formerly president of Hill Woolen Mills, Inc., Norwich, Conn., has sold his interest both in that company and also the Almack Co., to **Alfio Urbinati**, present treasurer of Hill Woolen Co. Mr. Hill still retains his interest in the Almack Co. of Canada and also will do advisory and sales work for Hill organization.

Claiborn Carr, Jr., formerly with rayon department of J. P. Stevens & Co., New York, N. Y., will join Iselin-Jefferson Co., Inc., New York, as vice president in charge of rayon-fabric division.

William N. Chace has been elected vice president of Greenwood Mills, Inc., Greenwood, S. C.

L. Stearns Gay, Jr., is now general manager of Gaymont Mill, Ludlow, Vt., and Gay Bros. Corp., Cavendish, Vt. **Carl Thomas** is superintendent at Cavendish and **Williams Pease** is Ludlow superintendent.

Donald George has rejoined rayon department of E. I. du Pont de Nemours & Co., Wilmington, Del., and will be in fabric-development department of nylon division serving under **Carl Taber**. He has been associated with Jacobson Fabrics, Inc., for last 2 yr.

Max B. Laupheimer, formerly with Worumbo Mfg. Co., Lisbon Falls, Me., and also with Sears, Roebuck Co., is now chief of wool branch, of the textile section under SCAP operating woolen and worsted industry of Japan.

John H. McCusker has been promoted to general manager of Natona Mills, Dallas, Pa. He succeeds **Alan J. Bisbee**, who resigned from company. Natona Mills is newest of six plants affiliated with Native Laces & Textiles, Inc., New York, N. Y.

Paul Whitin, Jr., resigned as general superintendent of Goodall-Sanford Inc., Sanford, Me., as of Jan. 1.

Dr. Oliver G. Edwards, textile engineer with University of Chattanooga Research Institute, Chattanooga, Tenn., will leave soon for Japan to assist in operation of textile industry. He will work as civilian attached to army and will be charged with helping Japanese manage their mills and with improving their production methods.

Robert Meyers has been appointed superintendent and manager of White Tex Mills, Inc., Raeford, N. C., succeeding **Marvin T. Poovey**, who has resigned. Mr. Meyers was formerly superintendent of Hampton Yarn Div. of American Thread Co., Clover, S. C., and later connected with Exposition Cotton Mills Co., Atlanta, Ga.

J. J. Norton, Jr., assistant treasurer and general manager of Gaffney Mfg. Co., Gaffney, S. C., for 3 yr., has become treasurer of plant, succeeding **W. A. L. Sibley**, resigned.

Philip S. McMullan is new manager and treasurer of Edenton Cotton Mills, Edenton, N. C. **R. F. Elliott**, secretary, has been named assistant treasurer to fill position held by Mr. McMullan prior to his promotion.

W. B. Croxton has accepted position as manager of plant of Robbins Cloth Mills, Aberdeen, N. C., which is now under construction. He was formerly with Dan River Mills, Danville, Va.

G. Harry Gwinnell, superintendent of Berkshire Woolen Co., Pittsfield, Mass., has been named general manager. He is succeeded as superintendent by **Denis T. Noonan, Jr.**

George J. Clavin, formerly general superintendent of Excelsior Mill, unit of Deering Milliken & Co., Union, S. C., has become general manager at Valentine Mills, Bennington, Vt.

James S. Tomlinson, formerly with Brown Co. first in Portland, Me., later in New York, N. Y., and since 1945 in Berlin, N. H., has been appointed assistant treasurer of Verney Corp., Boston, Mass.

L. J. Mayo is now assistant dyer for Susquehanna Mills, Sunbury, Pa., where **Walter**

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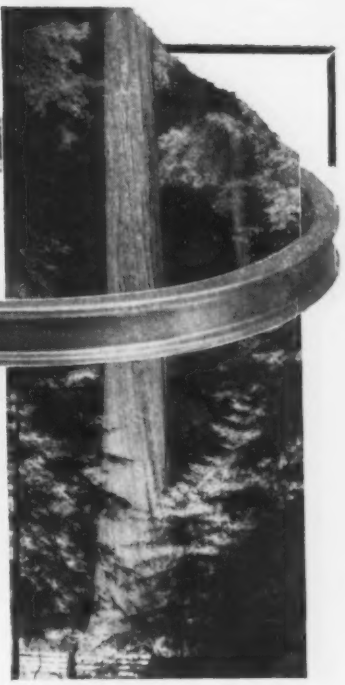

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NEWS ABOUT MEN

Feiler is superintendent of dyeing and finishing.

T. M. McNeill, who has been superintendent of Monarch and Ottaray Mills, Union, S. C., for last 31 yr., has retired.

J. W. Millchamp has been appointed assistant manager of Canadian Cottons, Ltd., Cornwall, Ont. He was formerly manager of Powdrell & Alexander of Canada, Ltd., and has been succeeded in that position by **George J. Stevenson**, plant manager.

Richard Mitchell, superintendent, is leaving Sabattus Woolen Co., Sabattus, Me.

H. Shoesmith, overseer of weaving, has left American Woolen Co., Webster, Mass.

Frank J. Aiken, assistant superintendent of Judson Mills, Greenville, S. C., has been appointed manager of new Deering Milliken & Co. rayon-weaving plant to be erected at Pendleton, S. C. He will remain at Judson Mills until April 1, when he will become head of new $4,000,000 mill. Work on structure will be completed next July.

P. Donnelly, superintendent and general manager of James Thompson & Co., Valley Falls, N. Y., has retired.

Alfred Harrison is new superintendent at Lion Yarn Co., Manchester, N. H.

Joseph Lane, formerly assistant superintendent at Madison Woolen Co., Madison, Me., has resigned from company.

Raymond Pratt, formerly dyehouse second hand at Sawyer Mills, Dover, N. H., is now overseer of dyeing at Ounegan Mills, Oldtown, Me.

Oscar D. Rogers, who has been connected with Packard Mills, Webster, Mass., has resigned and will become overseer at Lebanon Woolen Mills, Lebanon, N. H.

Mrs. Marie C. Rice is new general manager of Webster Textiles, Inc., Laconia, N. H., and **Paul Bonsaint** of Lowell is superintendent.

Stanley Olszowy is now overseer of carding for Berkshire Fine Spinning Corp., Brattleboro, Vt.

Ray L. Small, superintendent of plant of Wyandotte Worsted Co., Rochester, N. H., has been transferred to Pittsfield, Mass., as superintendent of Wyandotte mill there.

Harold S. Barney has been named superintendent of Amoskeag-Lawrence Mills, Inc., Manchester, N. H., and will have charge of all cotton and blended yarn production and related operations.

William E. Spence has resigned as superintendent of Sterling Mills, Ilion, N. Y., and has accepted position with Gilbert Knitting Co., Little Falls, N. Y. He was superintendent with Mohawk Rug Mill, Amsterdam, N. Y., for 12 yr.

A. Greenfield, overseer of finishing, is leaving Shawsheen Mills of American Woolen Co., Andover, Mass. **Joseph Flynn** will succeed him.

Douglas Hatch, office manager of Monroe Mills, Monroeville, Ala., has resigned to accept position as chief accountant for National Container Corp., Jacksonville, Fla.

David W. Hawksworth, formerly office manager of Alco Mfg. Co., Rockingham, N. C., has been appointed controller of Hamrick Mills and Limestone Mills, Gaffney, S. C., units of M. Lowenstein & Sons Co., New York, N. Y.

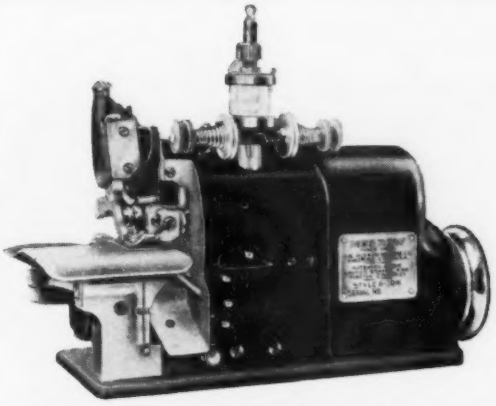
R. Krueger, formerly overseer of finishing for Orr Felt & Blanket Co., Piqua, Ohio, is now with Morschner Dye Works, Newton Upper Falls, Mass.

H. C. Lawton is now overseer of weaving at Gibson Woolen Mills, Tilton, N. H., and **Willard Earle** is overseer of spinning.

Eugene Lutz has been appointed head of Burlington Mills technical division, which includes supervision of company's New York laboratory. Mr. Lutz succeeds the late Gordon Young, former resident of Greensboro, N. C.

W. A. Lyon has become member of main office staff of Wiscassett Mills Co., Albemarle, N. C.

Clifford Bradley has resigned as director of dyeing and finishing operations of Kanmak Mills, Manchester, N. H. He was formerly general manager of Fowler Bleachery, Lawrence, Mass., and previous to that was



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NEWS ABOUT MEN

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Norman W. Bryon, worsted-cloth superintendent, has left Charlestown Woolen Co., Keene, N. H., to join Somerset Worsted Co., E. Madison, Me.

Miles A. Carpenter has been appointed assistant superintendent of No. 3 plant of Erwin Cotton Mills Co., Cooleemee, N. C.

Joseph Dolan, overseer of finishing at Beaver Brook Mills of American Woolen Co., Collinsville, Mass., has resigned.

W. E. Dunn has resigned as superintendent of Chiquola Mfg. Co., Honea Path, S. C., to become associated with Monarch Mills, Union, S. C.

Frank E. Harding retired Dec. 1 as superintendent of No. 28 mill of Arlington Mills, Lawrence, Mass., after 54 yr. service. He is succeeded by **Christopher T. Dover.**

Claude M. Hendrix, of Anderson, S. C., formerly with Gossett and Calhoun Mills, and New York & New Jersey Lubricant Co., is now night superintendent of cotton manufacturing department of Crystal Springs Bleachery, Chickamauga, Ga.

R. H. Hope will become superintendent of Chiquola Mfg. Co., Honea Path, S. C., succeeding **Woodroe Dunn**, who will go to Monarch Mills, Union, S. C.

Arthur Poirier is now overseer of carding at Duesberg-Bosson of America, Inc., Jefferson, Mass.

Francis S. Nettleton, general superintendent of Hockanum Mills of M. T. Stevens & Sons Co., Rockville, Conn., has retired.

E. Theodore Strickland, formerly overseer of drawing for Priscilla Worsted Mills, Thornton, R. I., is now superintendent of Empire Woolen Co., Millville, Mass.

Walter C. Webster has become general manager of fabrics division of Dunderry Woolen Mills, Inc., unit of Rockford Mitten & Hosiery Co., Rockford, Ill. Previously, Mr. Webster was with the North Star Woolen Mills, Minneapolis, Minn.

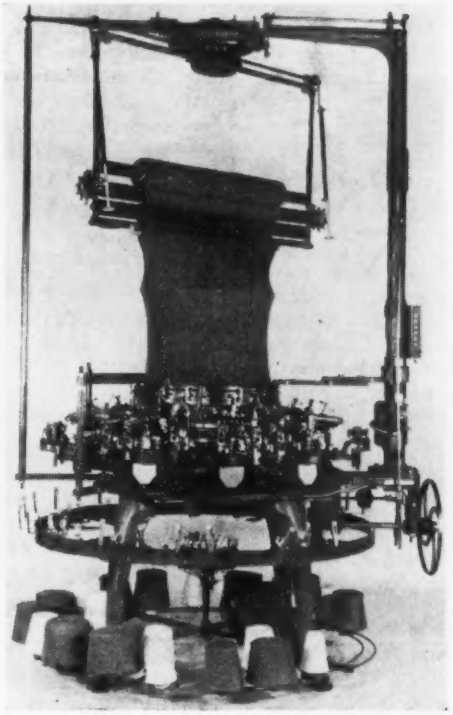
Obituary

William A. Moorhead, 62, vice-president and general manager of Joanna Textile Mills Co., Goldville, N. C., was killed Jan. 13 in an airplane accident near Washington, D. C. He had been with the company for 40 yr., having joined Banna Mfg. Co. (as Joanna was then known) in 1907. He became president and general manager 13 yr. later. In 1927, when William H. Regnery, of Chicago, Ill., purchased the mill and became president, Mr. Moorhead became vice-president and general manager, a position he held at his death. He was an active figure in southern textile industry.

Richard W. Arrington, nationally-known textile executive, died at Greenville, S. C., Dec. 21. He became associated with Union Bleachery in 1911 and was an official most of his years with the firm. In 1938 he was made president, succeeding his father. Last spring, when Union Bleachery was purchased by the Aspinook Corp., Jewett City, Conn., and two affiliated companies, Mr. Arrington was elected a vice-president of the three companies and held that office at the time of his death. He had served as president of the National Association of Finishers of Textile Fabrics.

Samuel Courtauld, 71, former chairman of Courtaulds, Ltd., and one of the leaders in the rayon industry, died Dec. 1 at his London home. Mr. Courtauld was chairman of the board for 25 yr. until October, 1946, when he resigned because of ill health, but continued as a director. He was a great-nephew of Samuel Courtauld, who founded the company in 1816.

John Henry Mayes, 82, former textile executive, died Dec. 17 at Charlotte, N. C. A native of Luftborough, England, he came to the United States at the age of 14. He was founder of the town of Mayesworth, now known as Cramerton, N. C., and was at one time president of the Cramerton Mills, Cramerton, and the



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NEWS ABOUT MEN

Ranlo and Priscilla Mills, Gastonia.

Ragon F. Ashe, 58, president of Ashe Hosiery Mills, Knoxville, Tenn., died recently.

John Augustus Moore, 68, president of the Edenton Cotton Mills, Edenton, N. C., died recently. He was a former chairman of the Carded Yarn Association; former president of the North Carolina Cotton Manufacturers' Association; a former member of the executive committee and board of directors of the Cotton-Textile Institute, and a director of the Institute of Textile Technology at Charlottesville, Va. He entered the textile industry in Henderson, N. C., where, for a number of years, he was secretary of the Henderson and Harriet Mills. From 1917 to 1929 he was president of the Patterson Mills, Roanoke Rapids, N. C.

James Southwell, 76, Lowell, Mass., who established Southwell Wool Combing Co., North Chelmsford, died Nov. 21. Mr. Southwell was graduated from Bradford Textile College in England and the Lowell Textile Institute.

John J. McGrath, of Heathcote Hosiery Co., New York, died recently.

William Skinner, 90, member of the firm of William Skinner & Sons, Holyoke, Mass., died recently.

Arthur Fluegelman, 44, president and director of N. Fluegelman & Co., Inc., and of Riverdale Mfg. Co., New York, died recently.

Richard J. Dealy, 60, of R. J. Dealy & Sons, textile machinery dealers of Boston, died recently in Medford, Mass.

Seth J. Besse, 74, president of New Bedford Textile Co., New Bedford, Mass., died Dec. 26. He was also associated for 48 yr. with the Morse Twist Drill & Machine Co., New Bedford.

Julius Kallman, retired textile executive died recently. Mr. Kallman retired recently from J. P. Stevens & Co., Inc., New York. He was on the executive staff of Iselin-Jefferson Co., from 1933 to 1940.

Sidney Dexter Covert, 68, president of the Cumberland Gap Woolen Mills, Harriman, Tenn., died Dec. 21.

William P. Mason, 98, died Dec. 6 at Brooklyn, N. Y. Mr. Mason was the last surviving partner of the firm of Samuel Thompson's Nephew & Co., woolen-goods merchants, New York.

Charles Cohen, 53, Greensboro, N. C., owner and operator of Cohen Hosiery Mills, died Nov. 28.

William Ernest Johnson, 62, secretary of Lydia Cotton Mills, Clinton, S. C., died Dec. 12. He had been associated with Lydia Mills for 40 yr.

Ralph H. Baruth, 59, first vice-president in charge of sales of Julius Kayser & Co., died recently. Mr. Baruth had been with the company since 1909.

J. Theo Howell, 65, general superintendent of Stowe Mills, Inc., and Pharr Worsted Mills, McAdenville, N. C., died recently.

George Erskine Watson, 62, assistant secretary of Greenwood Cotton Mills, Greenwood, S. C., and the Ninety-Six Cotton Mills, Ninety-Six, S. C., died Nov. 25.

Willard C. Robinson, 27, died Dec. 5. A son of Lee I. Robinson, owner of Robinson Hosiery Mills, Philadelphia, Pa., he was vice-president of his father's firm and assistant treasurer of Willard Hosiery Mills, Dublin, Pa.

Max Stein, 64, of White Plains, N. Y., a director and salesmanager for the Penn Hosiery Mills, Inc., Reading, Pa., died recently.

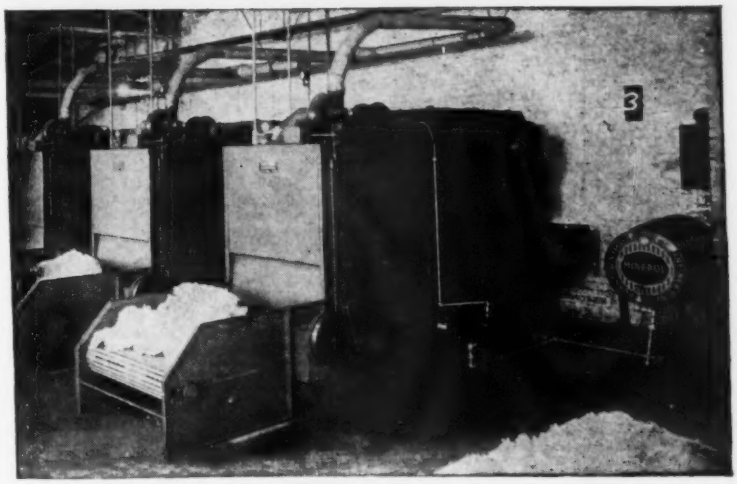
Carl D. Jackson, for 17 yr. cotton classer at the Startex Mill, near Spartanburg, N. C., and before that with Pacolet Mills and George H. McFadden Co., in Atlanta and Charlotte, died recently.

Henry W. Graham, overseer of Livingston Worsted Mills, Inc., Holyoke, Mass., died recently. Mr. Graham had held this position for 36 yr.

Clifford E. Miller, 69, died recently at East Providence, R. I. He was at one time a salesman of mill supplies and was associated with Union Belt Co., Fall River, Mass.

J. Horace Morrisette, 54, overseer of the spinning department at M. T. Stevens & Sons woolen mill, Franklin, N. H., for 12 yr., died recently.

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



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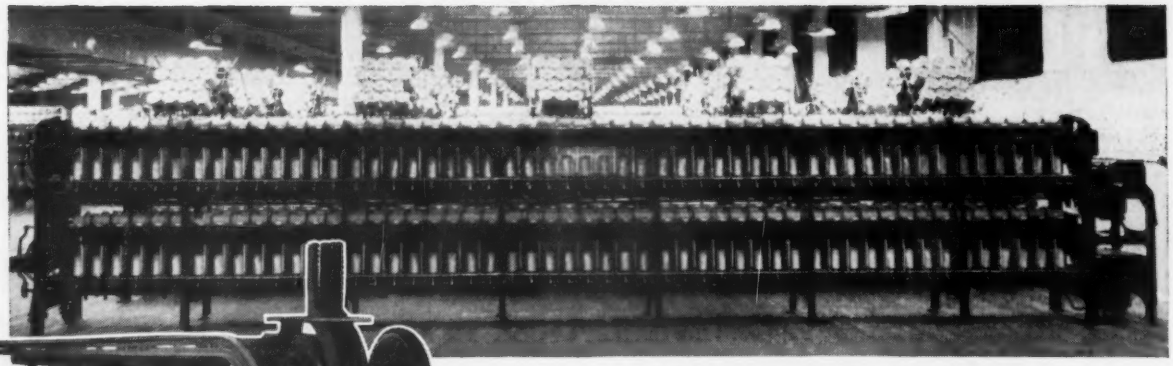

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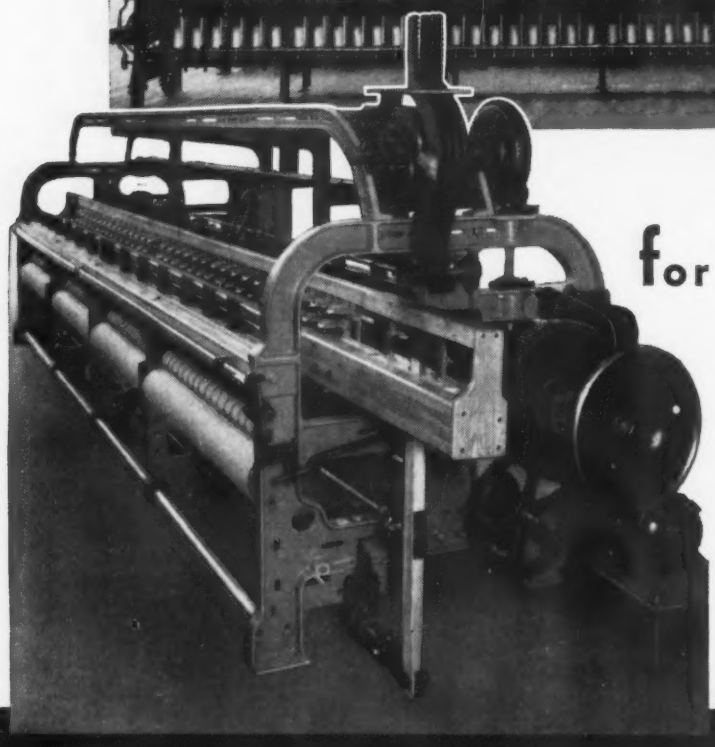

Above: Fletcher High Speed Webbing and Tape Loom

Below: Fletcher "Whirlwind" Extractor

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6—48 Smith and Furbush Spoolers, 44" drums, ends, 44½" long spools with 10" head, with spool stands
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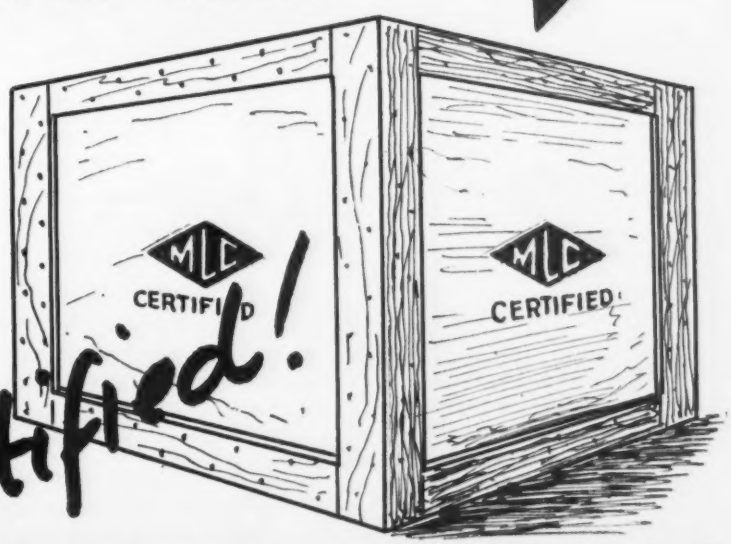
3—80 and 90 Sp. Foster Model 30 Cone Winders

—is the finest used textile machinery in the field



It's Certified!

FROM A CRATE TO A CARLOAD!

MACHINERY LIQUIDATING COMPANY

A Dealer of Recognized Reliability

31-33 West 42nd Street NEW YORK 18, N. Y.

DOMESTIC TELEPHONE PEnnsylvania 6-8014 EXPORT

WAREHOUSES: Paterson, N. J., 9 Godwin St., Tel. SHerwood 2-0373—Hawthorne, N. J., 35 4th Ave., Tel. HAwthorne 7-9661

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

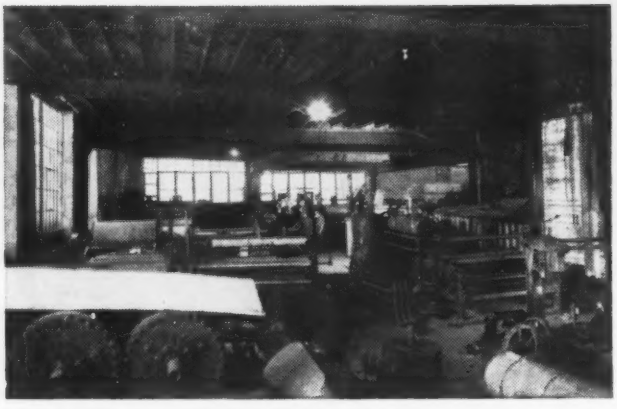
To Lick INFLATION——— —more PRODUCTION!

* EVERYBODY IN AMERICA wants to halt the inflationary pressures that have been driving prices up. At the same time, we all want to maintain the standard of living of the American people, and provide the necessary amount of aid to foreign nations.

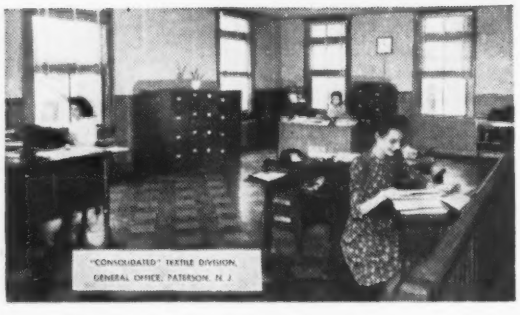
To accomplish all three of these high purposes, the following 12-point program is offered by the National Association of Manufacturers.

"... 6. Redoubling by management, of its efforts to INCREASE PRODUCTION, to lower unit costs, and to pass on the benefits of such increased productivity to the public."

*Excerpt from an advertisement by the National Association of Manufacturers in all Leading Newspapers



Typical views of Offices, Warehouse and Reconditioning Shop "Consolidated" Textile Division at 33 - 41 Bergen St. Paterson 2, N. J.



INCREASED production is the pressing and present need of American industry. Management efforts CANNOT be postponed—CANNOT WAIT—especially for the machinery and equipment vitally necessary to make increased production possible NOW. In this crisis, "CONSOLIDATED" continues to serve American Industrial Management, as we have for more than a quarter-century. Come to "CONSOLIDATED" for the production machinery and equipment and GET IT WITHOUT WAITING. And help the other fellow . . . make a list now of your idle production equipment and send it to "CONSOLIDATED". That's the quickest way to get it into production where needed. To lick inflation—to help keep down prices—to help America and the world—let your first move be to CONTACT "CONSOLIDATED".

• HOW TO REACH OUR PATERSON SHOPS FROM NEW YORK CITY

BY TRAIN: Erie Ferry to Jersey City and take Erie train to Paterson.

BY CAR: Express Highway to George Washington Bridge and take Route 4 to the center of Paterson.

BY BUS: 43rd St. near 7th Avenue Bus Terminal for bus to Paterson.

WE BUY FROM A SINGLE ITEM TO A COMPLETE PLANT FOR CASH

Get More Textile PRODUCTION—use "Consolidated"

USED EQUIPMENT

FOR RAYON - COTTON - SILK - WOOL
FOR BLEACHING - DYEING - FINISHING
PRINTING - WEAVING

COMPLETE PLANT
FOR MANUFACTURING COTTON PADDING
• COMPLETE WOOLEN BLANKET MILL •

3—Creels, 320 & 144 pins each, complete with combs.
3—Prince-Smith Cone Rovers.
4—Saco-Lowell Worsted Twisters, 3" gau.
12—H & B 40" Cotton Cards, 12" coilers.
3—Abbott #62 Winders.
11—Saco-Lowell Wool Spinning Frames.
8—Plush Looms, 72".
15—Whitin Twisters, 3" gau, tape dr.
1000—Roving Cans, 36" x 10" dia.
1—Prince-Smith 90 Sp. Twisting Frame.
24—C & K 4 x 1 76" Looms.
15—C & K Duck Looms, 62". R. S.
1—Lot Silver & Gay Thread Balling Machines, #50 Universal & Foster Cone & Tuber Winders, Atwood Spinners.
4—H & B Rubber Covering Machines, with #50 Winders, Mossberg Beams and Beamer.
1—New P & S Ceiling Condenser with aprons.
12—C & K 54" 4 x 4 25-harness dobby looms.
1—Set 60" Squeeze Rolls.

60—NEW 4-LIGNE ELASTIC BRAIDERS.
1—ACID AGER.

1—3-color 42" Print Machine.
1—Franklin 500# Package Dyer, m.d.
2—Smith-Drum Monel Rotary Dyers.
1—Rodney Hunt Stainless Steel Dyer.
1—Parks & Wool Shear, 60", with P & W Sewing & Rolling Machine, complete with motors & Drives.
6—72" Inspection Frames.
2—Slightly Used 61" Spreaders, complete with motors & drives.
1—Kaumagraph Machine.
2—V. V. & W & J Clip Tenters, 60" wd, 30' & 40' long.
1—66" Londonizing Tank.
1—2-color Laboratory Print Machine.
1—32" Roller Coater with motor.
1—Butterworth Tenter Frame, 10' lg, 66" face, (laboratory use.)
2—Hussong Skein Dyers.
1—Butterworth 3-roll Hydraulic Friction Calender.
1—P & W 72" Semi-Decater.
2—Davis & Furber Box Dusters.

THE KEY TO SAVING TIME AND MONEY
CONSOLIDATED
PRODUCTS COMPANY, INC.

Address All Textile Inquiries to
TEXTILE DIVISION, PATERSON 2, N. J.
33-41 BERGEN ST. Tel. ARmory 4-6540

NEW YORK CITY 15 PARK ROW NEW YORK 7, N. Y.

CONSOLIDATED PRODUCTS CO., INC.
Textile Division: 33-41 Bergen St., Paterson 2, N. J.

Please send latest edition of "Consolidated News" listing complete stock.

Firm .....
Mr..... Title.....
Address .....
City..... Zone.... State...

• *We are particularly interested in*

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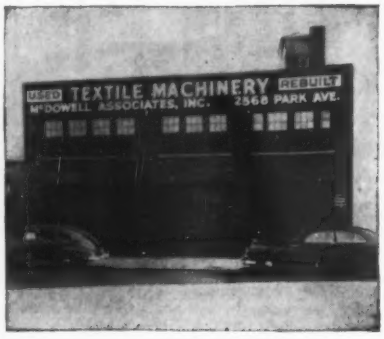


NOW

. . . . only a

DYEING & FINISHING

1—AGER, 17½' long, 8'7 high, 67" width rolls.
1—BATCHER, 2-roll, 50", friction windup.
1—BRUSH, 4-roll, 36" cloth.
1—BRUSH, 2-roll, 54", new card clothing.
1—BRUSH, 66", card clothing on cylinder.
2—CALENDERS, 3-roll, 44".
1—CALENDER, 2-roll 48" width.
1—CALENDER, 2-roll, 50" width.
1—CALENDER, 6-roll, 80" width.
1—CALENDER, 3-roll, 100" width.
4—CALENDERS, EMBOSSING, 38"—54" width, 2-roll units.
1—CALENDER, HYDRAULIC, 2-roll 50"
1—CALENDER, HYDRAULIC, 4-bowl, 60".
1—CALENDER ROLLING HEAD, 48" heated rolls, 36" diameter batch.
2—CHINCHILLA MACHINES, 60" cloth.
2—SJOSTROM CLOTH CONDITIONERS.
1—COTTAGE STEAMER 16' long, x 7'6" diameter, holds approximately 1800 yards cloth.
1—DECATUR, SEMI, 72", complete, pump, motor and blanket.
2—DECATURS, FULL, 72" and 84", pump, motor and blankets.
1—DEWING MACHINE 66½", adjustable shield and deflector boards.
4—DOUBLING AND WINDING MACHINES, 60" to 80" cloth.
1—CAN DRYER, 6 copper cans, 72" x 36" diameter.
1—CAN DRYER, 21 copper cans, 101" face x 23" dia.
1—CAN DRYER, 22 copper cans, 120" face x 23" dia.
1—CAN DRYER, 21 tinned iron cans 74" x 23" dia.
1—CAN DRYER, 3 SS cans, 15" x 30" diameter.
1—DRYER, NET, 90", cloth, fans, motors, insulated housing.
1—DRYER, LOOP, 84", fans, motors, insulated housing.
1—DRYER, PIN, 64" cloth guiders, motor, insulated housing.
1—DRYER, PIN, 72" cloth guiders, motor, insulated housing.
1—DRYER, SKEIN, truck type.
3—DRYERS, RAW STOCK, 350 lb. capacity up.
1—DYEING, PACKAGE, 50 lb. unit.
1—DYEING, PACKAGE, 32 spindle unit.
1—DYE KETTLE, 6' SS.
2—DYEBECKS, 14', wood boxes, SS reels.
1—DYEING, RAW STOCK, 500 lb., rotating drum.
1—DYEING, SKEIN, SMITH-DRUM 12 arm SS unit.
2—SKEIN DYEING, Kaluder-Weldon type SS lined tubs, 21 and 42 stick.
4—EXTRACTORS, TOLHURST, 32" and 60" copper baskets, belt driven.
1—EXTRACTOR, TOLHURST, 40" copper basket, underneath motor drive.
1—EXTRACTOR, VACUUM, 78", pump and motor.
8—FOLDERS, 40"—60", 1 to 1¼ yard folds.
2—FULLING MILLS, double compartment, 1 SS lined.
1—FULLING MILL (kicker 2-hammer, 36").
1—GIG, ROLLING TEASEL, with teasels, 11/4 for 100" goods.
1—GRINDER, NAPPER, adjustable from 60" to 120" rolls. Traverse grinders and side discs.
50—Humidifiers, Bahnson G, motor driven.
22—HUMIDIFIERS PARKS-CRAMER, motor driven.
3—INSPECTING MACHINES 47".
2—INSPECTING MACHINES, 58", motor driven.
14—JIGGS 44", 48", 50", 60", wood and SS tanks.
1—KIER, 30" diameter opening, vomiting control, mixing tank included.
1—MANGLE, 60" 2-roll, motor driven.
1—MEASURING & TUBING MACHINE 60".
3—MIXING KETTLES with agitators, 40-50-200 gallon capacity.
16—MOTORS, new, 3 hp, 3 phase, 220/440, 50/60 cycle, 1800 RPM with new switches.
1—NAPPER 64" DA, 20-roll.
1—NAPPER, 96", DA, 36-roll.
1—NAPPER, knitgoods, 66", double cylinder.
4—NAPPERS, 60-80", knitgoods, 20-roll units.
3—NAPPERS, SA, 80" to 100", 12-14 roll units.
1—PADDER, 60", 2-rolls, both rubber SS size pan, Reeves and motor.
1—PADDER, 65", 3-roll, belt driven.
1—PALMER, 64" face x 60" dia., blanket, motor, adjustable stretcher.
1—PALMER-TENTER-QUETCH unit 80".
3—ROTARY CLOTH STEAM PRESSES 66½"-72" double bed units.
1—PRINT MACHINE, 5 color, 63½" wide, complete.
1—QUETCH, 2-roll, 60", motor driven.
1—PRINT MACHINE, single color, 42" width, complete.
1—SANDING MACHINE, 2-roll, 66".
2—SCUTCHERS, 40" and 72".
2—SEWING MACHINES, Railway, 40" and 72".
1—SEWING MACHINE, Railway, 68" Merrow 60 ABB head, motor driven.
1—SEWING MACHINE, Rotary, Merrow 60 D3B head, motor driven.
1—SEWING MACHINE with rolling head, 56" goods.
5—SHEARS, 45", 60", 66", 72" and 80", single blade.
5—SHEARS, 60", 66", 72", 84", 104", double blade.
3—SLASHERS, COTTON, 60", copper cylinders 5' and 7' dia.
1—TENTER FRAME CLAMP, 10', long, 60" width.
1—TENTER FRAME, PIN TYPE, 30' long, 66" cloth, motor driven.
3—TIGERS, single, double cylinders, 66".
3—TUBERS, 54" and 60", measuring clocks, motor driven units.
1—SCOURING UNIT, SKEIN, 2-bowl, motor driven.
1—SCOURING UNIT, RAW STOCK, 2-bowl with feeders and dryer.
1—BACKWASHER, hot air type, 2-bowl with dry cans.
2—WASHERS, SLACK, 8 string, 10' long.
1—SCOURING UNIT, 5 compartment, 60" width, squeeze rolls, sprinkler, motor driven.

CARDING, SPINNING & WEAVING

1—BALING PRESS, 3' x 2' bale, motor driven.
10 M BOBBINS, 8" automatic and non-automatic.
18 M BOBBINS, for Model E spinning frames.
1—BREAST 60" x 16" dia. cyl. metallic wire, complete.
6 CARDS, COTTON, 40", 24" doffers, 12" coilers.
3 CARDS, WOOLEN, 48x48 iron, 3 cyl., rubb condensers, fully clothed.
3—CARDS, 60", WOOLEN, iron, cyl. tape condensers, fully clothed.
3—CARDS, WOOLEN, 48" single cyl, 2 with rubb condensers, 1 with coiler.
1—CARD, WOOLEN, 48x48, 4-cyl., rubb condensers, fully clothed.

NEW—USED—REBUILT

TEXTILE MACHINERY

McDOWELL

2568 PARK AVENUE

AVAILABLE...

partial list

McDOWELL ASSOCIATES

2—CARDS, WORSTED, 54", double cyl., balling heads, completely clothed.
1—NEW CARD CLOTHING 60" tension machine.
40—COMBERS, 10" coilers, with sliver lappers and ribbon lappers.
1—CLEANER AND OPENER, 8 blade Buckley beater.
1—NEW CONDENSER, single drum, ceiling type with conveyor aprons.
2—TAPE CONDENSERS, 60", taking off 120 ends.
2—RUBB CONDENSERS, 48", taking off 60 ends.
1—TAPE CONDENSER, 60", taking off 48 ends.
1—CONDITIONER, YARN, Hygrolit, motor driven.
50—CREELS, WARP COMPRESSOR TYPE, 432 spindles ea., spindles 9" long, 6" centers.
1—CUTTER, STOKES rotary fibre type, motor driven.
3—DOUBLERS, FOSTER #25, 60-80 spindle units.
1—REDOUBLER, Flyer type, 80 spindles using 6" spool.
2—DRAWING FRAMES, WORSTED, 6 spindle 14x8 bobbin.
7—DRAWING FRAMES, 1st through 5th drawing for gill spun yarns.
4—DRAWING FRAMES, 4 deliveries each. Whitin Model K.
4—FEEDS, Apperly type as used on 48" and 60" cards.
3—FEEDS, BRAMWELL automatic as used on 48" and 60" cards.
4—GARNETTS, 60", 2 and 3 cyl. units with feeders fully clothed.
1—GARNETT SHREDDER, 60", single cyl.
2—GILL BOXES, single head, double balling.
2—GILL BOXES, single head, single delivery, open can.
2—GRINDERS, CARD, traverse 48" and 60".
1—HACKLING MACHINE, 12 tool, 12" holders, makes 500 yd. sliver.
7—INTERMEDIATES, 9x4½ 72 and 112 and 120 spindle units.
50—JACQUARD HEADS, 600 hook, single lift.
1—LABORATORY FADE-METER type C, motor driven.

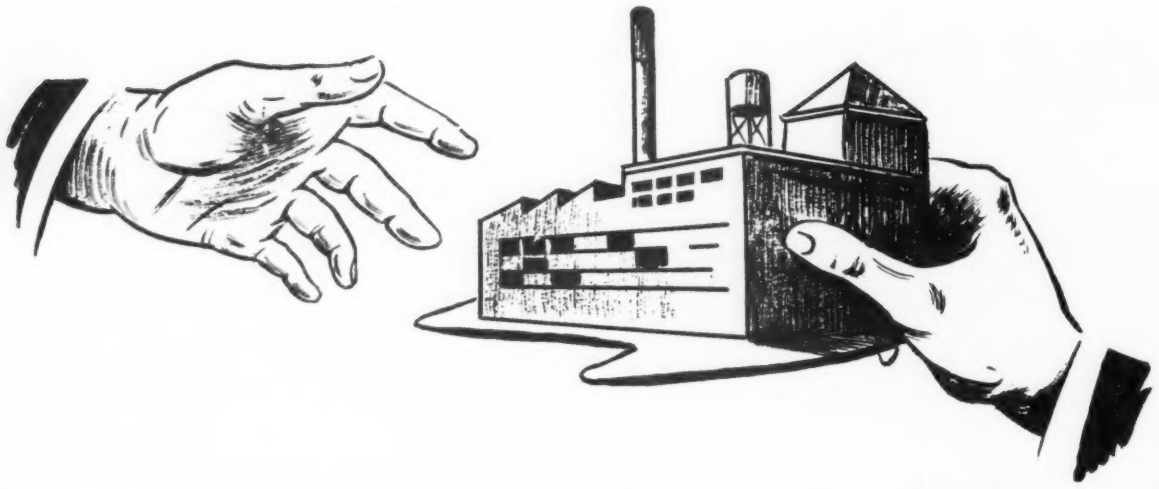
LOOMS

16—LOOMS, C&K, 20" 8 harness, belt driven.
24—LOOMS, C&K, 4x1 automatic, 47" 25 harness dobby, belt driven.
11—LOOMS, C&K 72", 4x4, motor driven.
12—LOOMS, C&K, 82" 4x1 automatic, 25 harness, motor driven.
9—LOOMS, C&K 85", 4x1, 8 harness, jacquards, motor driven.
8—LOOMS, C&K 92", 4x2, motor driven.
8—LOOMS, C&K, 92" 4x1 automatic, motor driven.
12—LOOMS, DRAPER D 80", motor driven.
100—LOOMS, DRAPER E 40", belt driven.
66—LOOMS, DRAPER E 42½", belt driven.
90—LOOMS, DRAPER K 40", belt driven.
200—LOOMS, DRAPER K 42", belt driven.
20—LOOMS, DRAPER L, 74", motor driven.
30—LOOMS, DRAPER L 90", motor driven.
150—LOOMS, STAFFORD 44", belt driven.
32—LOOMS, STAFFORD 49", motor driven.
48—LOOMS, C&K 85", 4x1 automatic, 8 harness, motor driven.
60—LOOMS, WHITIN 42", 8 harness, belt driven.
1—LUMPER 47", motor driven.
5—MULES, 288 spindles, 2"-2¼" gauge.
7—MULES, 360 spindles ea., 2¼" gauge.
2—MULES, 480 spindles ea., 1¾" gauge.
2—OPENERS, WOOL, double cyl. 40"-48".
3—PICKERS, BURR, 24", 36", 48".
1—PICKER, FRANKE 30"x20" dia. cyl.
2—PICKERS, MIXING, 42" and 48" with feeders.
2—PICKERS FEARNAUGHT 48" with feeders.
1—PICKER WHITIN ROVING WASTE, feeder and condenser.
3—PICKERS, RAG 24"x30" dia. cyl.
1—PICKER, RAG 42"x36" dia. cyl.
3—POLISHING MACHINES, THREAD, 50 spindles ea.
4—QUILLERS, 370 spindles ea., 2½" gauge.
5—REELS, SKEINS, adjustable 54-72".
3—ROVERS, CONE, 96 spindles ea., 5" gauge.
12—ROVING FRAMES 8x4, 144 spindles ea.
3—SLUBBERS 12x6, spindles ea.
4—SLUBBERS 11x5½, 56-64 spindles.
6—SLUBBERS 10x5, 96-112 spindle units.
14—SPEEDERS 8x4, 152 spindles ea.
8—SPEEDERS, 8x3½, 160 spindles ea.
4—SPEEDERS 7x3½, 144 spindles ea.
8—SPEEDERS, 6x3, 220 spindles ea.
3—SPINNING FRAMES, WOOL, 180 spindles, 4" gauge.
27—SPINNING FRAMES, 224 spindles ea., 2¾" gauge.
80—SPINNING FRAMES, 128-204 spindles, 2¾—3" gauge.
4—SPINNING FRAMES, 96 spindles ea. for gill spun yarns.
5—SPOOLERS 32"-50" drums, 48-60 end units.
3—TUBERS FOR SHOE LACES with reels and tip cutting machines.
1—TWISTER, UNIVERSAL, 200 spindle 3¾" gauge.
1—TWISTER 80 spindle, flyer type, 6" gauge.
2—TWISTERS, RAYON, 80-100 spindle units, 3" ring.
9—TWISTERS, WORSTED, dolly roll, 200 spindles ea., 3½" gauge.
15—TWISTERS, 280 spindles ea., 2¼" ring.
18—TWISTERS, 224 spindles, 2¾" gauge.
1—TWISTER, 200 spindles, 2½" ring.
1—TYING-IN MACHINE, portable, size 4-J loop knot.
1—TYING-IN MACHINE, stationary, type B knot.
4—WARPERS, COTTON 54", 500 end.
1—WARPER HIGH SPEED, 104 end.
1—WARPER HIGH SPEED, 107" with automatic warping creel, 500 live ends.
10—WARPERS, RAYON, 92" x 85" magazine transfer creels, spindles 5" centers.
4—WINDERS, FOSTER #30 CONE, 40-100 spindles, late type slubb catcher and waxers, motor driven.
2—WINDERS, FOSTER #101 CONE, 100 spindles ea., motor driven.
2—WINDERS, ABBOTT CONE, 190 spindles ea., motor driven.
4—WINDERS, FOSTER #12 TUBE, skein attachments, motor driven.
2—WINDERS, LAZENBY COP, 20 spindles ea.
30—WINDERS, SKEIN, 100 spindles ea.
1—WINDER, SKEIN, 24 spindle.
2—WINDERS, UNIVERSAL #50, TUBES, 6 spindles ea.
2—WINDERS, UNIVERSAL, 60 GF CONE, 96 spindles ea.

ASSOCIATES, INC.,

BRONX 51, NEW YORK (Nr. 138th St.) Tel. MElrose 5-6741

THE MILL CHANGED HANDS.....



but business continued as "usual"

When a complete mill, or any part of the stock in a company changes hands, not the least important part of the transaction is the preservation of good will and the continuance of the business along well established and profitable lines. To mill executives Republic Textile Service offers a confidential and experienced service that arranges such transference satisfactorily and with the least possible delay. Repeatedly both principals and their attorneys in these matters have written us congratulating us on the manner in which we have been able to handle their affairs. On this basis, we would appreciate it if you would contact us, or have your attorney or your banker investigate us, with the complete assurance that any inquiries or negotiations will be held in strictest confidence. We are also in a position to render comprehensive reports on the appraisal of textile mills or equipment that you may be thinking of purchasing.

REMEMBER

★ ★ ★ ★

Republic

REFINANCING
APPRAISALS
PURCHASE
SALE
LIQUIDATION OF MILL PROPERTIES

Republic MEANS QUALITY IN TEXTILE EQUIPMENT—

WOOLEN EQUIPMENT AVAILABLE

FINISHING EQUIPMENT

1—Padder 12"x44" Face
1—Copper Tank 24"x72"x20"
1—C.I. Kettle 36" dia.x36" deep
2—Rubber Lined Tanks 3'x8'x2'6"
1—50" Tubing & Measuring Machine
1—Set Nip Rolls 48" and Stand
1—60" Gas Singeing Machine
1—2 Roll Quetsch 6"x40" Rubber
1—Hydraulic Forcing Jack
1—11 Color Print Machine 42" Face
1—12 Color Print Machine 44" Face
1— 8 Color Print Machine 44" Face
1— 8 Color Print Machine 43" Face
2—E&H Flat Folders Silk Type 60"
1—Railroad Type Sewing Machine
9—Extractors, Copper, 40", 42", 48"
5—St. Steel Lined 54" Dye Jiggs
2—Tenter Frames, 40' and 50'
32—Copper Cans 40" Face
36—Copper Cans 112" Face
4—Sets 18"x18" Squeeze Rolls
1—Palmer Unit 82" Face with 10' Pin Clip Tenter Frame
1—Palmerette 65" with 30'x60" VV Tenter Frame

COMPLETE MILLS

1—Silk Weaving 46" Looms
1—Silk Throwing
1—15 Loom Narrow Fabric
1—Screen Printing
1—1000 spindle Wool Spin. & Weaving
1—1400 spindle Wool Spin. & Weaving
1—3384 spindle Cotton Spinning

CARDING

2—48x48 D&F Woolen
1—48x40 3 Cylinder Woolen
8—New Whitin 40" Cotton
3—48x48 D&F Roll Top
1—48" 2 cylinder Worsted
2—D&F 60x60 Worsted
1—D&F 54"x60 with 72 end Condenser

WINDING

12—Universal #90, Motor Driven, Bunch Builders
8—Atwood 5B & 3F
4—Universal #50
6—Atwood Twisters

SPINNING & WEAVING

8—Tricot Machines, 28 gauge, Complete
42—F&J 204 spindles 2¼" ring
42—F&J 192 spindles 2¼" ring
16—F&J 208 spindles 1 7/16" ring
3—Woonsocket 12x6 Slubbers 68 spindle
14—Woonsocket 8x4 Intermediates
90—36" Draper Model E Belt Driven
28—Draper Model E 40"
98—Draper Model K 44"
2—C&K 4x1 52½" Automatic
122—Stafford 1x1 46"
8—Draper 90" Northrop Model O
12—C&K 1x1 60" Plush
4—C&K 4x1 auto. 92"

CARD CLOTHING

NEW ROLLING, TUBING, EXAMINING & DOUBLING MACHINES

NEW COPPER AND STAINLESS STEEL DRY CANS TO YOUR SPECIFICATIONS

Forward your inquiries for equipment not listed.

Textile EQUIPMENT COMPANY

40 WORTH ST. • NEW YORK CITY

CORTLANDT 7-1591

Purchase and Sale of Used Machinery

Get this!

BAY STATE HAS TEXTILE MACHINERY FOR SALE

—and we're in the market to buy your idle machines!

TYPICAL MACHINERY OFFERINGS

1 S-L #10 Condenser 16" inlet—17" outlet.
2 S-L #3 Condensers B.B. belt drive.
1 S-L #10 Condenser 12" inlet —15" outlet.
1 Kitson Ceiling Condenser G-7-16, cage 30"x24".
6 48" Auto. Feeders Kitson.
32 H&B Cotton Cards 40"—12" coilers.
2 Woonsocket 11x5½ Frame 72 spdles. 9" ga. Campbell B.B. top rolls, belt drive.
132 Deliveries S-L Drawing 12" coilers, metallic rolls, mech. stop motions, belt drive.
16 Spinning Frames, warp, 2¾" ga. 1⅞" rings, 224 spdles., metallic separators, 1" front roll, conv. draft, band drive.
96 Spinning Frames, filling, 1⅜" rings, conv. draft, band drive, 244 spdles. Belt drive.
28 H&B Spin. Frames, conv. draft, 216 spdles., 3¼" ga. 2¼" rings, #2 flange rev. 7" dia. cyl. 4 band Medley drive.
26 H&B Spin. Frames conv. draft, 240 spdles. 3" ga. 2¼" rings #2 flange rev. 4 band Medley drive, B.B. tension pulleys.
1 Cole auto. Banding Machine.
4 Whitin Long Chain Quillers 378 spdles. 3⅜"x2¾" centers.
3 Entwistle Long Chain Beamers.
1 Cocker High Speed Warper for 54¼" beam with magazine creel for 660 cones. Ind. Motor drive.
1 D&F Beam Compressor 114" with expansion comb, and beam stands.
1 500 end Miller Cone Creel with disc. tensions.
1 Cone Duster D&F 7 ft., auto. cleaner, all metal no feed aprons.
1 64" C&M Inspecting Mach. with type A rolling-up head and measuring dial.
1 Foster #101 Cone Winder 100 spdles.
1 Foster #25 Doubler 2 ends up to tubes, 100 spdles. arr. for motor drive, no motor.
1 Hermas 4 blade 58" Shear.
1 (NEW) Paterson Tubing & Measuring Machine, motor driven.
300 10"x36" Fibre Roving Cans, metal top and bottoms.
1 Sargent Raw Stock Dryer 72" —2½ sections with Feeder. 36" & 48" Continuous Feeders (wool).
8 Humidifiers Standard, with Control.
1 Clarke (NEW) 48" Mixing Picker.
1 Worthington 2 stage cent. Pump 100 lbs. pressure with 25 HP 550 V. 3 ph. motor.

BOBBINS, SPOOLS, SKEWERS, MOTORS, SUPPLIES

BTS

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

NEWS OF TEXTILE EQUIPMENT

Presented by

WM. RABINOWITZ & SONS

SLASHES

4—Cocker 11 Drums 60 inches wide.

Used only 1¼ years, practically new! !

30" Diameter Stainless-Steel Drums, 5-Beam Take Ups, Double Quetch, Reliance Single-Motor Variable-Speed Drive, 15 HP., 1150 RPM. Taylor Instruments and Piping. Special Reeds 1½" Wide, Johnson Joints, Bearings, and Flexible Tubing.

CONE CREELS

2—Late Magazine Type, 900 Ends complete with electrical stop motion, with double rod tensions, guide boards, and porcelain eyes. Available with slashers.

MOTORS

600 G.E. 3 hp. 220 volts, 60 cycles, in excellent shape.

350 2 H.P. 1200 R.P.M.

140 3 H.P. 900 R.P.M.

30 5 H.P. 1800 R.P.M.

We have some other miscellaneous motors in various sizes, phases, and speeds.

SPOOLS

46,000 3¼" Fiber Head, 3⅜" Trav., 1⅜" Bar. For Winding or Warping.

60,000 3½" Fiber Head, 5" Trav. 2" Bar., for winding.

30,000 2⅝" Bakelite, 4 9/16" Trav. 1¼" Bar. for 5-B Spinners.

300,000 2½" Fiber Head, 3½" Trav. 1¼" Bar. For Winding or Shipping.

SINGLE DECK TWISTERS

7—Fletcher Motorized 1934 Model 6" Gauge. 4—80 spindle machines and 3—70 spindle with 6⅛" centers, 3½" wide cork-covered take-up pulleys, 4½" diam. motor pulleys, 3 HP General Electric motors with starting switches. 220 volts, 60 cycles. Machines in excellent condition. Excellent Bobbin Equipment Available for These Machines at Low Cost.

SPINNERS

8—Late type U. S. Textile Redraws, 80 Spindles Motorized Complete with Tensions, etc.

17—Fletcher 5-B Spinners.

All individually motorized 3 HP, 3 phase 220-440 volts, 60 cycles, 84 spindles, 5¼" spacing, 3⅛". Whitin rings, double 2" feed rolls. Excellent condition. Bobbin Equipment with machines.

8—Atwood 5-B Spinners.

All individually Motorized 2 HP, 3 Phase 440 Volts, 60 cycle motors. Bobbin Equipment with all machines. 4—100 spindle, 5¼" spacing, 3" Eadie rings, single 2" feed rolls. 4—112 spindle, 5¼" spacing, 3⅛" Whitin, single 2" feed rolls.

LOOMS

9—C. & K. 52" Motorized 4 x 1, 30 Dobby, Side Feeler Motion, 1¼" Beams per Loom.

57—Crompton & Knowles Blanket Looms, 85" Between Swords—Excellent Condition.

48—C. and K. Automatic side-cam Looms Equipped with 4 Harnesses (Room for 8)—Complete, in operation up to a few months ago. 9 C. and K. Automatic Jacquard Looms Complete with C. and K. Jacquard Head No. 1960, 460 Hooks.

KNITTING MACHINES
6 TRICOT

4—Whitin 168", 5 years old.

2—German 168", Machines 10 years old.

All Machines Like New.

EXTRACTORS

1—60" Fletcher—Motorized, 1—48" Troy—Motorized, 1—36" Schaum and Uhlinger—Motorized.

High Speed Saco-Lowell.

RAYON WARPER

Beam and leasing device type with 54" long drive roll. Beam 54⅛" between inside of 28" diam. heads and 12" diam. bar, positive expansion Pantograph comb boxes. 5 strokes per minute at thread speed of 300 yds. per minute. Veeder-Root yardage clock. V-belt drive. Motorized G.E. 2 HP, 855 RPM, 3 phase, 60 cycle, 440 volt, stop motion controls.

HUMIDIFIERS

54—High Speed Bahnson, Like New Condition.

1, 2, or 3 phase, ¼ H.P. Motors, 220 Volts, 2240 R.P.M., 60 cycles. H-J Type. Late Type Humidity Control.

YARNS

16,000 lbs. All Wool Knitting Yarn.

12,000 lbs. 2/10 cut, 4,000 lbs. 3/15 cut. O.D. color in orig. 8" cones. 75% foreign, 25% domestic. 56's U. S. standard. Reg. knitting twist.

40,000 lbs. Fiberglas—225-2-5 Original 2 lb. Cones.

4,000 lbs. Fiberglas—225-1-0—3 Ply—Original Tubes.

Nylon—600 lbs. 8 ends of 120 Den. Original Tubes.

Way below market price.

CONERS

5—No. 50 Universal Belt Gainer. All motorized 3-30 taper Anti-wear tensions. 6 spindles each machine.

STEAMING SHAFTS

160,000 Hubbard.

60,000 4⅜" Head 47⅞" Trav. 2" Bar.

100,000 3½" Head 3⅜" Trav. 1½" Bar.

Hollow Gudgeon Stainless Steel.

SPINNER BOBBINS

27,000 Large package 3½" Bakelite Head 6" Traverse 1⅜" Bar.

SILK and RAYON WINDERS

3—Atwood D.D. 140 Spindles each.

1—Motorized Fletcher D.D. Winder or Redraw.

Oiless Bearing Fingers.

We Buy Your Surplus Spools and Yarns.

MISCELLANEOUS

26—Emulsion Troughs & Al. Rools for No. 50 Coners.

1,000 Brugger Swifts for Silk & Rayon.

2—Silk Soaking Machines Complete with Pumps.

2—Skein Presses.

1,200 Whitin 5-B Rings, 3" Diameter.

1—Warp Compressor Creel, 1,000 Ends.

1—72" Sipp 8 yd. Warper. High Beam Heavy Duty.

200 Cake Holders.

3—Singer Sewing Machines for Heavy Fabrics.

75,000 7" Quills for No. 90 Universals.

1,000 50" and 52" Harness Frames for 13" Heddles.

50—2-Shift Pick Counters.

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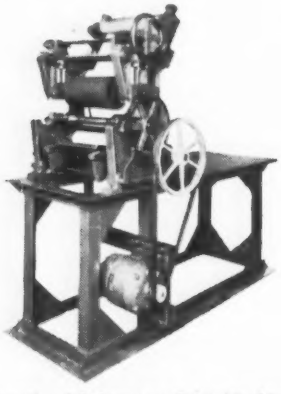
– to get you worthwhile equipment
– to dispose of your idle equipment

PART LIST ONLY

AGER, Wood, Acid, New
AGER, Stainless Steel Acid
AGER, Tower, New
BEAMER, 60" Van Vlaanderen
BEAMER, 60" with steaming drum
BLOWER, New, Squirrel cage type
BLOWERS, R. C. 8 x 5 3/5" 850 cu. ft. per min.
BOIL OFF TANK, 47"x72"
BUTTON BREAKER, V.V. spiral, 60"
BUTTON BREAKER, V.V. 50"
CALENDER, Kasterinsky 36" for knit goods
CLIPS, V.V. & W. & J.
DOUBLER, Windle, 60"
DRY Cans, set of 8, 72"x23" dia. horizontal
DRY CANS, set of 32, 50"x23"
DRY CANS, 7 Morrison 48" high pressure
DRYING DRUM, 61" face x 24" dia.
DRYER, P&S Loop, Revolving Sticks
DRYER, Van Vlaanderen 7 tier net
DYE BECKS, Stainless steel 4' to 20' New
DYE TUBS, 6' Wood complete motorized
DYEING MACHINES, Smith Drum Paddle type
DYEING MACHINES, Smith Drum Pocket type
DYEING MACHINE, Rochester Rotary 30"x20", 3 pocket 20 lb. capacity
EXTRACTOR, 26" Amer. Motor
EXTRACTORS, Beam 50" & 60" BB
EXTRACTOR, K & G 48", rubber lined basket
FLAT FOLDERS, Elliott & Hall adjustable
FULLING MACHINES, L. F. Hemmer double line
HOISTS, Budget 1 ton ½ ton capacity
INFRA RED units complete with blowers
INSPECTION TABLES, 47"
JIGGS, 90"
MOTORS, ¾ to 5 HP AC/DC 220 volt
PAD, 2 roll 50'
PADDER, 90"
PALMER QUETCH UNIT, Butterworth, 54"
PRINT MACHINE, 10" sample or ribbon
PRINT MACHINES, 6 & 8 Color 60", Waldron
PUMP, Worthington Vacuum, 18x9 complete with 25 HP motor
QUETCH, 2 roll BB 50" & 60" ball bearings
QUETCH, 3 roll, 50" Morrison, motorized
RIBBON FINISHING MACHINE
SCUTCHER, NEW
SEWING MACHINE, 60 ABB with 72" carriage
SHEAR, Hermas, 4 knife 70" wide
TENTER FRAME, Pin W&J 30'x220" wide
TUBERS—Paterson variable speed motors
TUBER, V.V. with doubling attachment
WASHERS, slop, New Stainless Steel
WASHER, Steel, G.L. Type
WOOL WASHERS, J. Hunter 6'



Sample of Laboratory Print Machine

Stainless Steel Dye Becks 2' to 20'

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THE "T-A" PLAN FOR TEXTILE PROSPERITY!

PLAN YOUR PRODUCTION—THEN DON'T WAIT FOR MACHINERY...GET IT NOW FROM "T-A"

FOR INSTANCE:

1—#66 Economy Cloth Baler with Motor 5 HP 550 V. 3-60 52" opening 45" length 30" width

4—MODEL H-1 Portable Agitators St. St. Propellers & Shafts Expl. Proof Motor single Phase

1—3 Bar Mycock Expander (Brass Bars-Raising Device)

2—SIMPSON Cloth Winders—cut-off Equipment

4—Durant Guiders with extension Frames

Abt. 1500 feet 2 11/16" Diam. Shafting with Hangers & Pulleys

1—500 AM-AIR CIRCUIT BREAKER 200 V. 3-60

2—New Rubber Rolls 57½" wide 2⅞" Diam. Shaft Driven & Driver 11" Diam.

1—50" 2 roll Mangle—Rubber & S. Steel—Hydraulic Pressure

2—50" 2 roll Mangle—Rubber & Brass—Deep Box

1—50" Butterworth Tenter 50'

1—50" Windsor & Gerauld Tenter 30' to 50'

1—50" Mercerizing Tenter

2—48" Hydro Extractor—S.S. Baskets—D.C. MOTORS

1—EYELET MACHINE (United Shoe Mchy. Corp.) MODEL F—1 HP SINGLE PHASE 230V.

1—4 ROLL 42" CHASING CALENDER—2 IRON —2 COMB. ROLLS.

1—60" S. Steel Jig. Rubber Beams St. St. Immersion Rolls

2—50" S. Steel Jig—Rocking Expanders

5—50" Jigs Wood Boxes Rubber Beams

1—Set 30 Steel tinned Cans 120" wide— rem. Journals

1—Set 35 Steel tinned Cans 90" wide—rem. Journals Siphons

1—Set 33 Steel tinned Cans 128" wide—rem. Journals Siphons

1—50" Jig, all Monel Metal Box, Rubber Beams

7—Braiders 6x8x10—2 Braiders 8x10x12 3 Deckers

1—Sturtevant Unit Heater #300—High Pressure —Motor Single Phase 110V.

30—Copper Color Boxes for Print Machine & Rolls 42"-52"-56"

35—Doctor Blades with Holders

1—Riggs & Lombard Continuous Woolen Washer consisting of: 4 Boxes with 4 sets off 60" Rubber Rolls & 5 Boxes with 5 sets of 32" imp rolls

1—46" P & W Doubling & Rolling Machine

1—V.S. Colloid Mill with 2 Motors & 1 Gear Pump with Motor

Tenter Chains FOR MERCERIZERS—WET and DRY FRAMES RUBBER—BRASS—STEEL ROLLS — SWING FOLDERS COTTON — COMBINATION — HUSK — CALENDER ROLLS

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. . WE OWN AND OFFER FOR SALE . .

12—Crompton and Knowles Automatic looms (reconditioned) 4 x 1 with 20 harness dobbies to weave 40″ goods.

10—Draper Automatic Looms for 60″ goods, equipped with Roper let-off and ratchet take-ups, Reconditioned.

11—Draper Automatic Looms for 48″ goods, Roper let-off and worm take-up, Reconditioned.

80—Draper Automatic Looms for 40″ goods, Roper let-off and ratchet take-up.

40—Crompton and Knowles 600 hook double lift Jacquard Machines.

#90 Universal quillers or coppers, with or without bunch builders, belt driven or motor driven.

Sipp or Eastwood warpers and creels, 84″, 72″ and 60″.

3—Atwood 5Bs Doubler twisters, motorized, 100 spindles, 6 End.

1—P. & W. Rolling Machine.

1—Hand Loom, 110″ Reedspace.

1—Entwistle 54″ Direct Warper.

1—Scotch Tape Feed.

1—Schaum Uhlinger 54″ Extractor 10 H.P. Motor.

Crompton & Knowles and Draper parts new and used.

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FROM A SINGLE ITEM TO A COMPLETE PLANT
NEW and USED TEXTILE MACHINERY

Paterson Textile Machinery Exchange
INC.

formerly the Paterson Silk Machinery Exchange, Inc.

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DYEING AND FINISHING MACHINERY EQUIPMENT AND SUPPLIES

OF THE KENYON FINISHING COMPANY, LAWRENCE, MASS.

1—60" Curtis & Marble 6-burner Open Flame Singer, motor driven
1—60" Vat Dyeing Machine and Definizer
1—60" Continuous Vat Ageing Unit
1—72" Birch Bros. Hydro Scutcher, complete with Detwister and Nash Hytor Vacuum Pump, with lint trap
4—60"Werner Stainless Steel Dye Jiggs, individually motor driven through gear reduction units
3—60" Stainless Steel Dye Jiggs, individually motor driven
12—50" Morrison Stainless Steel Dye Jiggs, driven in groups of 4, complete with stainless steel hoods.
17—Stainless Steel Lined Dye Becks, individually motor driven
2—48" Fletcher Hydro Centrifugal Extractors, direct underneath motor drive by DC motors.
1—60" Butterworth 80' Tenter Frame, top opening clips, motor driven with controls, and with short galvanized heating unit
1—50" Butterworth 80' Tenter Frame, equipped with Industrial Air Company Housing, newly installed, top opening clips, stainless steel plates and inserts, motor driven
1—50" Morrison 80' Tenter Frame, equipped with Andrews & Goodrich Housing, top opening clips, stainless steel plates and inserts, motor driven
1—50" Butterworth 80' Tenter Frame, top opening clips, stainless steel plates and inserts, motor driven, with short galvanized heating unit
1—50" Butterworth 30' Tenter Frame, top opening brass faced clips, belt driven
1—Proctor & Schwartz Automatic Loop Dryer, 5 unit, overall length 53'3", width 17', 13'6" high, length of dryer proper 37'6". Recently delivered, never erected
1—96" Proctor & Schwartz Air Lay Dryer, equipped with 14 individually motor driven fans, double strand, box 26'6" long, 15' wide, 11'9" high
1—Van Vlaanderen 6-tier Net Dryer, equipped with 6 fans, motor driven, box 45' long, 9'3" wide, 12' high
1—17-can Butterworth Stainless Steel Dryer, cans 23" dia. x 130" face, vertical frames, self-aligning roller bearings, individual siphons, Johnson joints, strainers and traps, equipped with cut gears, and with Mt. Hope Mechanical Guiders
1—72" Van Vlaanderen Semi-Decator, 1947 Model, decating cylinder 36" dia. x 73" face, ball and roller bearings throughout, motor driven
1—50" Van Vlaanderen Semi-Decator, 1941 Model, decating cylinder 36" dia. x 55" face, motor driven
1—50" Perkins 3-roll Hydraulic Calender, 100-ton capacity, 2 chilled steam heated rolls, 1 cotton filled roll, motor driven
1—50" Morrison 3-roll Silk Calender, screw and lever set, 2 paper filled rolls, 1 chilled iron steam heated roll, belt driven
1—60" Butterworth 2-roll Padder, screw and lever set, rolls rubber covered, stainless steel tank, motor driven
2—50" Morrison 2-roll Padders, screw and lever set, rubber covered rolls, ball bearing, stainless steel tanks, motor driven
1—60" Van Vlaanderen 3-roll Quetch, 1 brass roll and 2 rubber covered rolls, friction speed control, motor driven
1—50" Van Vlaanderen 2-roll Quetch, rubber covered top roll, nickel plated bottom rolls, ball bearing, friction speed control, motor driven
1—50" Morrison 2-roll Quetch, both rolls rubber covered, belt driven
2—60" Batchers, 1 motor driven, 1 belt driven
1—60" Benjamin Eastwood Cloth Flapper
1—50" Benjamin Eastwood Cloth Flapper
1—14' Unrolling Reel, ball bearing, motor driven
1—70" Hermas Inspecting and Measuring Machine, friction speed control, motor driven
4—50" Hermas Cloth Inspecting and Measuring Machines, friction speed control, motor driven
1—64" Van Vlaanderen Cloth Boarding, Tubing and Doubling Machine, motor driven
1—62" Van Vlaanderen Cloth Boarding, Tubing and Doubling Machine, motor driven
3—64" Paterson Machine Company Cloth Tubing Machines, motor driven
1—54" Paterson Machine Company Cloth Tubing Machine, motor driven
1—Merrow Butt Seam Sewing Machine, Style 60ABB1, mounted on table, motor driven
5—Merrow Butt Seam Sewing Machines, Style 60D3B, portable tables, motor driven
1—Birch Bros. Sewing Machine, rotary portable type, with Merrow Head, Style 60D3B, motor driven
2—Birch Bros. Sewing Machines, Coronation Model, rotary portable type, foot operated
7—Dismore Rotary Foot Powered Sewing Machines, portable type
1—50" Dinsmore Railway Sewing Machine, hand operated
1—"Lightning" Portable Mixers, individually motor driven
1—Worthington Feather Valve Air Compressor, 8½x9, complete with After Cooler and Tank, motor driven
1—Bruner Portable Air Compressor, single cylinder, motor driven
1—Nash Hytor Vacuum Pump, Size L-4, direct motor driven
1—150 KW Westinghouse DC Motor Generator Set. Motor: 250 H.P. Synchronous, 2200 volts, 3 phase, 60 cycles, 1200 RPM. Generator: 150 KW, 250 volts, DC, 1200 RPM, complete with panel board and starting equipment
1—100 KW General Electric DC Motor Generator Set. Motor: 150 H.P., 2200 volts, 3 phase, 60 cycles, 900 RPM. Generator: 100 KW, 250 volts, D.C., 9000 RPM, complete with panel board and starting equipment

LABORATORY EQUIPMENT

Scott Cloth Tester, Najort Laundry Washer, Gas Fading Oven, 3 Analyte Luminous Daylight Color Matching Lamps, Analytical Balance Scales, Electric Ironer, Beaker Steamer, Patch Dryer, Water Stills, Laboratory Glass, etc.

TRUCKS

Bleach House Trucks, Box Trucks, Push Trucks, Lift Trucks, Platform Trucks, etc.

MISCELLANEOUS ITEMS

Electric Hoists, Shell Rolls, Cloth Stillages, Stainless Steel Lined Tanks, Copper Steam Jacketed Mixing Kettle, Pumps, Fans and Exhausters, Motor Driven Exhaust Fans, Scales, Electric Clocks, Lockers, Electric Water Coolers, Office Equipment, Machine Shop Equipment, First Aid Room Equipment, Woodworking Machinery, Blacksmith Shop Equipment, Dyestuffs, Chemicals, Paper Tubes, Shipping Supplies, Gear Reduction Units, Motors, Switches, Piping, Valves, etc.

WRITE FOR COMPLETE CATALOG COVERING THIS EQUIPMENT

OTHER FINISHING EQUIPMENT AVAILABLE

1—24-Can Stainless Steel Dryer, cans 23" dia. x 72" face, vertical frames, self-aligning roller bearings
1—40' Lincoln Tenter Frame, opens to 45", with top opening clips
4—10' Rope Washers, 2 rolls each, rubber covered
3—17" 2-roll Squeezers
2—22" 2-roll Squeezers
1—60" Textile Scutcher
1—60" Butterworth Water Mangle
4—5-ton Allen Kiers, with outside heaters and motor driven pumps, and with recorder controls
2—44" Golden Foundry Co. 8-box Open Washers

WRITE WIRE OR PHONE FOR COMPLETE INFORMATION

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10 ATWOOD UPSTROKE TWISTERS. Individually motorized. 200 spindles each. Excellent condition.
20 FLETCHER UPSTROKE TWISTERS. Individually motorized. 200 spindles each. Excellent condition.
6 FLETCHER UPSTROKE TWISTERS. Individually motorized. 148 spindles each. Excellent condition.
9 FLETCHER DOUBLE DECK redraw machines. Individually motorized. 200 ends each.

SPOOLS • • • FOR PROMPT DELIVERY

20,000 FIBRE HEAD SPOOLS. 3½" traverse. 3" fibre heads.
75,000 NEW FIBRE HEAD SPOOLS. 4" traverse. 3" head.
31,000 TAPERED HOLE SPINNER SPOOLS. To fit jumbo spindle. 4⅜" traverse; 3¾" heads.
27,500 HEAVY DUTY FIBRE HEAD SPOOLS. 4⅜" trav., 3 15/16" fibre head.

ONE MILLION, SEVEN HUNDRED THOUSAND **SPOOLS AVAILABLE FOR PROMPT SHIPMENT FROM STOCK. BOTH NEW AND USED.**

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When you want the best – you call in a "SPECIALIST"

McKITTRICK *Specializes!*

IN WOOLEN AND WORSTED MACHINERY

12—C & K 82" x 25 harness 4 x 1 Box Automatic WOOLEN or WORSTED LOOMS. Motor Driven, 550v.
1—SACM 6-lickiron single cylinder 60" w. x 50" dia. WORSTED Card.
1—Smith and Furbush 2-cyl. 48" x 60" diam., All iron ASBESTOS Card with hopper feed. Camel back intermediate feed. Rub condenser. Individual motor drive.
2—S & F 2-cyl. 48 x 48 all iron ASBESTOS Cards. Hopper feeds. Camel back intermediate feeds. Rub condensers Individually motor driven, 440v.
1—Proctor & Schwartz single cylinder 30" x 48" dia. ASBESTOS Cards. Lap feed. Metallic clothing. Rub condenser. Motor drive, 440v. Year 1938.
1—D & F 40" Mixing Picker. 2 pair feed rolls.
1—D & F 24" Mixing Picker. Pinned feed roll and shell.

FOR EXPORT ONLY
4—SACM French Combs. Model SAG with Creels. Year 1926.
FOR EXPORT ONLY

1—D & F 14 roll x 80" SA Napper "French type."
30—Woonsocket Spare Napper rolls only. 86" x 2⅞". Ball bearing.
1—C & M 63½" single SHEAR. Woolen or Worsted.
1—P & W 42½" Model A double SHEAR, motor driven.
1—Scott Model J-2 yarn or fabric Tester 11-v. motor. LIKE NEW.
1—D & F #31 Garnet Breast for 48" card. 16" dia. cylinder.
1—Gessner 72" full Decater, complete.

Specialists for 25 Years

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LIQUIDATIONS

78 FLETCHER ST., **FRANK G. W. McKITTRICK CO.** LOWELL, MASS.
Established 1922 — PHONE LOWELL 6391 — *Incorporated 1935*

ALL MACHINERY MUST GO!

BUILDINGS SOLD!

NO REASONABLE OFFERS REFUSED—

3 cylinder—60" all iron card D&F with "New Peralta Unit."

4 New 12' stainless steel dye kettles, motor driven

60 looms—C&K 82" — 100" — 110" automatic and non-automatic

3—60" x 48" Cards—3 cylinders

6—48" x 48" Cards—3 cylinders

1 Tolhurst Extractor—Motor Driven—safety cover—48"

5—300 Spindles Mules

Miscellaneous Jack Spoolers, new card clothing, Warpers, Supplies, Belting, Sewing Machines, Cloth Press.

ABOVE MACHINERY CAN BE INSPECTED AT:

OAKES MILLS

225 BELLEVILLE AVE. BLOOMFIELD, N. J.

Approximately 15 miles from New York City

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AVAILABLE IMMEDIATELY FOR SALE

USED EQUIPMENT

ITEM NL-13

Drafting Elements

10 x 4½ Cotton Roving Frame
For 128 Spindle—Model 13
Saco-Lowell Frames
Enough to equip 2000 Spindles
1944 to 1945 Models

This includes all parts above the beam except Top Rolls, Trumpets & Operating Levers.

Used—but some a very short period.

ITEM NL-R

Roth Long Draft Cotton Spinning Attachments

For Saco-Lowell Frames

Enough to equip 10,000 to 20,000 Spindles less a few Miscellaneous parts.

Used—but some a very short period.

ITEM 12152

Stock Dye Kettle

Stainless Steel Lined, Tank 36" Diameter by 54" deep—Single Spindle.

ITEM 12264

Butterworth Pin Tenter Dryer

30' long — open type — maximum width 72". 2 Steam Boxes and 2 Heating Coils with traps.

ITEM 12418

Coating Machine

72" Width Cloth Roll—Chain Drive.

ITEM R-B

Centrifuge or Vacuum Extractor

All Stainless Steel 60" Basket

Made by American Tool & Machine Co.—Includes special Louis Allis 15 HP motor on main drive and auxiliary 1½ HP motor for treatment at low speed of 30 RPM with cycle control for reversing at low speed.

ITEM N-H

2 Derby Doublers or Sliver Lap Machines

Making a 20" Lap

ITEM H-R

1—36 Spindle Foster Winder

Model 101 — Equipped with 18 Spindles for 70" Paper Tubes and 18 Spindles for Wood Tubes or Wood Cones — 7" Traverse Foster Butterfly Type Slub Catchers.

Collins & Aikman Corp.

Sales & Salvage Department

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Upland, Delaware Co., Pa.

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FOR SALE

COMPLETE SPINNING UNITS

FOR IMMEDIATE DELIVERY

ranging from 5,000 to 25,000 spindles.

Details gladly submitted.

Silver King 12"x36" Vulcanized Fiber Roving Cans. Place your order now to insure delivery when needed!

A. F. FYANS

TEXTILE MACHINEY AND SUPPLIES

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Office and Factory: Forge Road, Westport, Mass.

MACHINERY FOR SALE *Immediate Delivery*

6—C&K Silk & Rayon 4x4 Looms 54" Reed Space 20 Hook—Light Gem Head Motor Driven.

14—Draper 80" reed space Automatic loom 28 Battery Cam modern Modified D Individual motor driven ¾ HP motors Mechanical warp stop motions completely equipped.

9—Attwood 5B Twisters 2½ in. rings 100 spindle. Individual motor driven.

32—C&K 72" Automatic Bobbin changer, 2x1 silk & rayon looms, intermediate heads, 20 hook, motor driven, roller bearing, built 1925, 11,000 serial numbers.

MACHINERY CAN BE INSPECTED IN OUR WAREHOUSE

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2—60" to 65" Beamers.
50—16 Carrier Braiders.
1—50" VV Button Breaker—wood rolls.
1—3 Roll 36" Hydr. Calender.
1—38" VV Embossing Calender, motor driven.
1—60" VV 3 Roll Calender, rebuilt, new rolls.
2—4 38" Bowl Branger Calenders.
1—4 Roll 42" Butterworth Chasing Calender.
1—42" Butterworth 3 Roll Calender, belt.
1—42" Butterworth 2 Roll Calender, rebuilt, new rolls.
1—Textile 2 Roll Hydraulic 48" Calender.
1—90" 4 Roll Calender, Rebuilt.
1—New Royle Card Repeater, complete.
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1—60 x 60 D & F rebuilt single cyl. iron Card.
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1—National Dry Box, 3 Fans.
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1—Set 12 Textile Vert. Copper Dry Cans, 50" x 50" complete with Reeves drive and motor.
1—Set 37 Copper Dry Cans, 112" x 23", Holbrook Syphon Trap System.
1—Set 10 Vert. Copper Dry Cans, 40" x 23", Belt driven, syphon type.
1—5' Monel metal lined Morrison Dye Beck.
1—8' Stainless Steel lined Morrison Dye Beck.
2—6' and 8' solid stainless steel dye Becks.
1—10' Stainless Steel lined Dye Beck.
3—50" solid Stainless Steel Hennigens Dye Jiggs.
10—50" and 54" Stainless Steel lined Dye Jiggs, motor driven.
4—60" Stainless Steel Morrison Dye Jiggs.
1—40" Tolhurst Extractor, copper basket.
2—42" Fletcher Style E. Hydro. Extractors.
2—48" American Pneumatic Extractors, copper baskets, motor.
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24—Draper 45" RS Rayon Looms, 2—Quillers, 1—Measuring Machine, complete.
80—Draper Model K 40" Looms, 45½" RS, 25 harness, double index dobbies.
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6—52" RS C&K 12 harness motor driven Looms.
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12—80" C & K 4x1 Looms, 2 harness.
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12—82" C & K 4x4 Looms, 25 gem heads.
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1—82" 36 R. Woonsocket Double Acting Napper.
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1—Palmer Unit, 87" face and 2 roll Padder 83".

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3—24" Schofield Rag Pickers.
1—Mod. 60 Economy Baling Press down-stroke.
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8	Combers—Model C	Whitin—1908-10
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12 C & K 65" GEM HEAD, 4 x 4 boxed looms, equipped with box chain multipliers and in good running condition.

FS-3703, Textile World
330 West 42nd Street, New York 18, N. Y.

this Searchlight Section of TEXTILE WORLD

is an index of reliable sources for Used and Resale Textile Equipment and Supplies now available. Consult the **Searchlight Section** in following issues for later offerings.

If you don't see what you want—ask for it. Ask the advertisers. They are constantly adding to their stocks and may have acquired just what you need. Or, shall we ask them for you?

And, when you have special items to dispose of, use the Searchlight Section of Textile World to help you locate buyers. . . . Send a list of your equipment and we will gladly give full information as to space and rates.

You will be surprised how little it costs to present your offerings to buyers throughout the industry, in this way.

Classified Advertising Division

TEXTILE WORLD

330 West 42nd St., New York 18, N. Y.

AVAILABLE IMMEDIATELY FOR SALE

USED EQUIPMENT

1 52" Cocker, Spindle driven, variable speed drive, Re-Beamer. Excellent condition. 1 year old.

1 Cocker Slow-Speed Warper for 54¼" Beams. Excellent condition.

Above items available for inspection at:

STONECUTTER MILLS CORPORATION
Spindale, N. C.
Subject to prior sale.

SHERIDAN

#9D 54" x 44" Rigid Head Embossing, and Cutting Press

- Space between rods 60"
- Diameter of rods 6 to 6½"
- Bed 57 x 45½"
- 14 Strokes per minute
- 20 H.P. Motor, 1,200 speed, 440 volts
- #3 Trumbull starter
  (2) Type G—Ress Push Buttons
  (1) Hurd Counter
- With Roll Feed Attachment

WRITE! WIRE! PHONE!

AMERICAN MACHINERY & STEEL CORP.
529 E. Jefferson Avenue
Detroit 26, Michigan
Phone: RA-8822

FOR SALE

2 Davis & Furber 48" Triple Apron Condensers with 20" Iron Ring Doffers
1—#90 Universal Filling Winder
YANTIC WOOLEN MILLS, INC.
YANTIC, CONNECTICUT

New and Used Textile Machinery

MILL SUPPLIES

Representing

MORTON MACHINE WORKS. Package and Raw Stock Pressure Dyeing Equipment.

HUBBARD FOLDING BOX CO. Precision handling of spools and bobbins between departments.

AIR-PERME-ATOR CO.—Controlled humidification and heating.

GEN. TEX. Combination Tan Rub Aprons and Tapes

Our Engineers are available at all times. Appraisals made on machinery to ascertain current values.

Immediate attention for purchase of all Surplus Equipment. All our used equipment is rebuilt. Inquiries solicited.

GENERAL TEXTILE MACHINERY Co.

1139-51 E. CHELTEN AVE PHILA., 38, Pa.

WARREN J. TALBOT, INC.

NEW AND USED WORSTED MACHINERY

COMPLETE UNITS	*Mailing Address*	ODD MACHINES
Complete Dismantling Moving Erecting Service	P. O. Box 30 Bristol, Penna. *Phone Phila. Fulton 9-0200* *Write us in regard to Your Machinery Needs or Your Surplus Machinery*	Packing and Boxing For Export a Specialty

FOR SALE

COMPLETE OPENING ROOM EQUIPMENT—ALL REBUILT

1—Kitson #7 Buckley Beater Section
1—Saco-Lowell #4 Bale Breaker
1—Saco-Lowell Vertical Opener
1—Saco-Lowell Condenser
1—Sturtevant #6 Fan
1—Kitson 38" Hopper Feeder
1—Kitson 40" Breaker Picker
1—Kitson 40" Finisher Picker

WILSON LEWITH MACH'Y CORP.
USED TEXTILE MACHINERY AND SUPPLIES
MAIL: 1317 ELIZABETH AVE. CHARLOTTE, N. C. Phone 4-2403 WAREHOUSE: WILKINSON BLVD. BEHIND BARBECUE LODGE

FOR SALE

SURPLUS TEXTILE EQUIPMENT

36—Dry Cans 112" face, Vertical Stacks, Copper.
10—54" Dye Jiggs Rubber Rolls, stainless steel lined.
1—90½" Face 4 roll Rolling Calender.
4—45 gallon Tin Coated Copper Jacketed Mixing Kettles.
1—Hydraulic Accumulator, 3" diameter ram, Watson Stillman hydraulic pump.
1—Palmer Unit 83" face x 60" diameter.
3—RBF Printing Machines, 3-10-11 color.
1—70" x 60" Lincoln Swing Tenter Frame.
1—30' x 60" Van Vlaanderen Tenter with Palmer.
1—66" 2 Roll Padder.
1—Pin Dryer. Return type 30' long 66" wide.
1—Van Vlaanderen Button Breaker—50".
1—Kemp Singeing Machine, 40" to 60", New, Complete.
57—New Stainless Steel Dry Cans, 23"D x 66" Face, Vertical Stacks.

WARREN TEXTILE PRINT WORKS, INC.
BONDSVILLE, MASS.

Equipment Wanted Advertising—Page 324

SEARCHLIGHT SECTION

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE:

60 cents per line, minimum 4 lines. To figure advanced payment count 5 average words as a line.

POSITIONS WANTED (full or part-time salaried employment only), ½ above rates.

PROPOSALS, 60 cents a line an insertion.

INFORMATION:

BOX NUMBERS care of publication New York, Chicago or San Francisco offices count as 1 line additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

DISPLAYED RATE:

The advertising rate is $6.75 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches —to a page. T.W.

NEW ADVERTISEMENTS received by 10 A. M. February 17th will appear in the March issue, subject to limitation of space available

MEN WANTED

POSITIONS OPEN

MILL MANAGERS, superintendents and assistant superintendents; superintendent silk weaving and throwing mill in Australia; superintendent dyeing and bleaching cotton tubular knit goods; superintendents and assistant superintendents worsted yarn mills; superintendent rayon weaving plant; superintendent large Southern cotton mill; superintendent worsted cloth mill; designer silk neckwear mill; pile fabric designer; assistant superintendent piece goods bleachery.

OVERSEERS for following departments: cotton weaving, Southern mill $75; rayon silk throwing for New England and Penn.; woolen and worsted weaving; woolen carding, $100 to $150; dyeing nylon hosiery; woolen and worsted finishing; worsted and woolen burling and sewing; cutting for sweater mill; Atwood twisters; woolen carding for Pacific Coast; sewing knitted and woven goods; calendering; rayon dyeing and finishing for South America; warping, slashing and winding rayon and cotton; rayon piece goods dyeing for New England and other mills; finishing large rayon piece goods plant; worsted carding; worsted drawing; head final examiner $80 to $85 week; warping and winding (silk and cotton—Southern plant) $80 to $90.

SECOND HANDS for following departments: woolen and cotton carding; woolen, cotton and worsted finishing; folding and putting up; woolen spinning and mule fixers; rayon and cotton weaving, winding and warping for South America; cotton slashing, warping, spooling and winding; burling and mending; fulling and scouring; jig dyeing.

OFFICE MANAGER for Penn.; industrial engineers and time study men; textile chemical salesman; research engineer with Ph.D. degree; chemists and chemical engineers,, also chemists to do demonstrating and selling of chemicals; textile machinery salesman.

MASTER MECHANICS, plant engineers, maintenance supervisors; electrical foreman; electrical design engineer; boss loom fixer rayon mill; jacquard loom fixer, New Jersey; piping and steam engineer; Wilton jacquard loom fixer, $100 week; Brinton mechanic, Southern mill; Banner machine fixer; narrow fabric loom fixer; fixers for cards, pickers, drawing and roving frames; fixer Barber-Colman warper; dresser tenders.

We invite correspondence (confidential) with mill executives seeking new positions and employers seeking new executives.

Over 50 yrs. Confidential Employment Service for Textile Mills.

CHARLES P. RAYMOND SERVICE
(Incorporated)
294 Washington St., Boston 8, Mass.
Liberty 2-6547

WANTED
GENERAL CONTRACTOR

General Contractor with selling organization to represent us in textile industry and handle installations of nationally advertised Lindsay Structure. Applications include all types of metal enclosures — dryers, processing rooms, machinery housings, industrial partitions, etc. Excellent opportunity for large volume business.

Write giving full details of organization and experience in the textile industry.

The Lindsay Corporation
MELROSE PARK, ILLINOIS

Wanted
Mill Superintendent

For automatic loom weaving plant. Location outside N. Y. C. Excellent opportunity for right man:

P-3674, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
Boss Printer & Colorist
Full history and salary expected in first letter.

P-3675, Textile World
330 West 42nd Street, New York 18, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

TEXTILE CHEMIST—Research and development in a well established Northeastern New York concern. Laboratory and/or mill experience with natural and synthetic fibers and their processing preferred. In replying, state age, training, experience, and give references. P-3628, Textile World.

TEXTILE CHEMIST—Research and development work in a well established New York, capitol district, concern. Experience with various cloth constructions, finishes and finish processing preferred. In replying, state age, training, experience, and give references. P-3629, Textile World.

MASTER MECHANIC with both steam and electrical experience wanted by large upstate New York underwear manufacturer. Splendid opportunity for a man of real ability. State qualifications. All correspondence strictly confidential. Write P-3566, Textile World.

WANTED—INDUSTRIAL Engineer (30-35) to supervise wage incentive and cost system for Pennsylvania synthetic yarn throwing plant employing 400. Salary $4000-$6000 approximately. P-3430, Textile World.

SELLING OPPORTUNITY OFFERED

MANUFACTURERS REPRESENTATIVES and agents wanted to sell new revolutionary material positioning machine for the silk screen printing and allied trades. Many territories open, both domestic and export. RW-3657, Textile World.

(Continued on Page 323)

NEW AUSTRALIAN PLANT
requires
RAYON WEAVING SUPERINTENDENT

Superintendent, well versed in the operation of automatic looms and the cotton system of manufacture. Only applications of those with highest references and recent experience in modern methods will be considered.

P-3561, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
Assistant Superintendent for Worsted Yarn Mill
Excellent opportunity exists. Answer fully giving background and experience. All replies confidential.

P-3491, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED MAN
With technical training and experience in plant operations of a worsted yarn mill to train for position of Assistant to General Manager. Splendid opportunity. Give in detail all of past experience. All replies confidential. Write

P-3492, Textile World
330 West 42nd Street, New York 18, N. Y.

DESIGNER WANTED
By large pile fabric company. Must be familiar with pile weaves and structures in all classifications. Must have ability to create and style new fabrics. Must have a thorough knowledge of all textile fibres. Only those with long experience need apply. Excellent and permanent opening. Applicants should send a resume including education, experience and salary desired to

P-3607, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
LOOMFIXERS
Draper L Model Looms
(72" to 108" widths)

P-3673, Textile World
330 West 42nd Street, New York 18, N. Y.

DYER
Excellent opportunity exists for an experienced worsted skein dyer in midwest New York State mill. Salary to start $5,200. Answer fully giving background and experience. All replies confidential.

P-3464, Textile World
330 West 42nd Street, New York 18, N. Y.

SEARCHLIGHT SECTION

(Continued from page 322)

POSITION VACANT

EXPERIENCED OVERSEER wanted for woolen carding and picking operation for second shift in long established company in New England. Successful applicant will be expected to produce results under satisfactory organized working conditions. Good salary. Excellent opportunity. Give complete resume of experience and personal data in first letter. Replies treated in strict confidence. P-3784, Care Textile World.

POSITIONS WANTED

SUPT. OF Dyeing, Technical college graduate, age 47. 25 years experience cotton or rayon, skein or package, all types of colors. Excellent references. Would consider sales and demonstration. PW-3039, Textile World.

ARGYLES YOUNG man with 10 to 12 years experience on hand framed argyles in Canada, and at present employed in the United States on this work. Desires to change employment. Interested parties wishing to start in this line write care of PW- 3462, Textile World.

OVERSEER OF Weaving wants to make a change thoroughly experienced on all classes of woolen and worsted goods on Drafer or Crompton and Knowles automatic looms. PW-3530, Textile World.

CORDUROY WEAVER, Cutter and Finisher seeks employment in progressive company as consultant or other executive position. References. PW-3669, Textile World.

TEXTILE FINISHER Supervised finishing, examining and tubing depts. 36 years of age. PW-3679, Textile World.

NARROW FABRIC and Woven Label Superintendent available soon; expert in Production and Cost Control. PW-3590, Textile World.

PLANT ENGINEER now with large cotton mill desires to make a change. 20 years experience in machine design, mill maintenance, power generation and transmission, age 51 years. Location not important. Will consider a Maintenance Supt. or Master Mechanic position. PW-3470, Textile World.

SELLING OPPORTUNITY WANTED

EXPERIENCED DYESTUFF and textile chemical salesman desires manufacturers to represent on commission basis in Greenville, S. C. area. Has sufficient capital to maintain office, warehouse and sales staff. College graduate. SA-3494, Textile World.

SALES ENGINEER, graduate looking for sales representation with or without use of downtown N.Y. office. Experienced design, fabrication and selling of textiles and textile machinery. Commission basis. RA-3709, Textile World.

BUSINESS OPPORTUNITY

European Manufacturer of Double Plush Jacquard

and Wilton Carpets and Rugs seeks as partner an American or Canadian manufacturer with spinning dyeing plant and established sales organization. Will furnish looms plants designs technical employees. Reply by airmail to Morino Saise, Monte Di Pieta 24, Torino

U. S. Government

U. S. Department of Agriculture, Bureau of Agricultural and Industrial Chemistry, Southern Regional Research Laboratory, 2100 Robert E. Lee Boulevard, New Orleans, 19, La. is advertising for bids to furnish and install at New Orleans, La. two revolving flat top cards and one drawing frame. The invitation number is SRL-128-48 and the date of opening, February 9, 1948. Those interested in bidding contact the Southern Regional Research Laboratory.

PURCHASE OF

BRAIDING PLANT

A going plant, with capacity of at least 300 tubular braiding machines will be purchased by principals directly. Negotiations will be assured of strictest confidence.

BO-3509, Textile World
330 West 42nd Street, New York 18, N. Y.

RAYON & COTTON MILLS

ATTENTION!

If you have any available looms suitable for wearing upholstery and drapery fabrics, we will furnish you with yarn for 50 or more looms on a steady basis. Jacquard or shaft work. Profitable commission weaving arrangement. Give full details regarding type of equipment.

CW-3508, Textile World
330 West 42nd Street, New York, 18, N. Y.

AVAILABLE

GENERAL MANAGER

RAYON BROADCLOTH MILL

Seventeen years experience.

Ten years as general manager of Throwing, Warping, Slashing and Weaving.

Would like position with large plant.

PW-3559, Textile World
330 West 42nd Street, New York 18, N. Y.

TRICOT STYLIST

EXPERIENCED IN DEVELOPMENT AND ANALYSIS OF WARP KNIT FABRICS. WILLING TO CONNECT IN FOREIGN COUNTRY IF DESIRED.

PW-3148, Textile World
330 West 42nd Street, New York 18, N. Y.

SUPERINTENDENT AVAILABLE

Filament & Spun Rayon—Cotton—Blends. Textile education. Broad experience all technical details of manufacturing. Cost conscious. Full knowledge standard costs. Budgetary controls. Excellent references.

PW-3626, Textile World
330 West 42nd Street, New York 18, N. Y.

Woolen Superintendent Available

Twenty-four years experience in the manufacture and designing of men's and women's wear fabrics. Thorough practical knowledge of all departments from raw stock to finished cloth. Capable of producing results. Good manager of help.

PW-3606, Textile World
330 West 42nd Street, New York 18, N. Y.

KNITTING MILLS

Circular & Warpknit Fabrics

Alert Sales Agency is ready to go to work for you. Long-established contacts with all types of users of knitted fabrics — in New York market and elsewhere. Styling knowledge. Address replies to our advertising agents.

POSNER-ZABIN ADV. AGENCY
222 Fifth Ave., New York

MANUFACTURERS' REPRESENTATIVES

With staff of specialized salesmen well connected in the Cuban textile market solicits direct representation of American Textile mills on commission basis.

Aurelio A. de Rojas
Aguiar #259
P. O. Box 1354 **Havana, Cuba**

WANTED

MACHINES TO BUILD

36 year old firm employing 500, devoted exclusively to the building of Machines, Assemblies and Parts for others would like to get in contact with companies having complete machines or parts to be made to their design. Estimates furnished promptly upon receipt of prints. Write for list of our machine equipment, visit our plant, or we will send representative.

THE
HARTFORD SPECIAL MACHINERY COMPANY
HARTFORD 5, CONNECTICUT

CAMS

Our ROWBOTTOM cam cutting facilities are at your disposal for your cam requirements.

Let us have your inquiries.

BLOOMFIELD TOOL CORP.
38 Farrand St. **Bloomfield, N. J.**

CASH PAID
For Capital Stock or Assets of
TEXTILE PLANT

• WANTED

By large financially powerful diversified organization wishing to add another enterprise to present holdings.

Existing Personnel Normally Retained

Box 1222
1474 B'way, N. Y. 18, N. Y.

PROFESSIONAL SERVICES

LANCASTER, ALLWINE & ROMMEL
Registered Patent Attorneys

Patent Practice before U.S. Patent Office. Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.

Suite 448, 815-15th St., N. W., Washington 5, D.C.

I. JORDAN KUNIK
Registered Patent Attorney

Mechanics - Electricity - Chemistry

75-P Pearl Street Hartford 3, Connecticut

FOR SALE

3 MODERN WELL LOCATED INDUSTRIAL PLANTS

Only a few minutes drive from Providence. Floor Areas: 28,000 sq. ft., 30,000 sq. ft., and 48,000 sq. ft. Sites bound on N. Y., N. H. & H. R. R. and provide ample room for expansion and parking. Soft river water is available to one. Power from Narragansett Electric Company.

Can be purchased separately or as a whole. Send for Brochure.

EXCLUSIVE AGENTS

JOHN B. CARPENTER
58 Weybosset St.
GA 6989

ARTHUR W. DREW
805 Turks Head
GA 9050

PROVIDENCE, R. I.

Your Inquiry Will Have Special Value

if you mention that it is in response to advertising in this publication. Advertisers value such acknowledgments highly; so does the publisher. You benefit —as a reader—in the enlarged future service such acknowledgments help to make possible.

WANTED

WANTED
DYESTUFFS
Chemicals—Pigments—Oils, Waxes—Solvents Wastes, Residues, By-Products
CHEMICAL SERVICE CORP.
80C Beaver St. New York 5
HAnover 2-6970

FOR EXPORT
all types of Hosiery Knitting and allied machinery to India
CONTACT
A. N. SAYAL & SONS
76 Ramnagar, New Delhi, India
The Leading Knitting Machinery Dealers
Cable: HOSEXPERT

WANTED
BOTTLE BOBBIN WINDING MACHINES
12 SPINDLES, WRITE
AINSLIE KNITTING MACHINE CO. INC.
750 Grand Street Brooklyn, N. Y.

DYESTUFFS
Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

WANTED
WHITIN SPINNING
60 frames
216 spindles 3 inch gauge
Slip draft 2 inch ring
LEADING EMBROIDERY COMPANY
5719 Hudson Blvd., North Bergen, N. J.

WANTED—FOR CASH
Yarns
All types—Cotton, Rayon, Acetate. Natural, Tinted or Dyed.
W-3662, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
WHITIN—(Double Roller)
NOVELTY YARN FRAMES
Write full details
W-3581, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
Spool Winding Machine
One or more 12 spindle Baines Weild
W-3585, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
GROOVE ROLLS
One (1) pair of 80 End Groove Rolls for 60" Card, Whitin Condenser Model K4DB.
W-3683, Textile World
330 West 42nd Street, New York 18, N. Y.

WANTED
Automatic Skein Yarn Dryer
With traveling skein protector, used and in good working conditions. Please address offers to:
"FABRICA MINERVA"
SAN SALVADOR Rep. de El Salvador, C.A.

WANTED
Semi-Decating Machines
24 inch or 36 inch diameter cylinders State manufacturer, price, location of machine also drive and vacuum pump details.
W-3402, Textile World
330 West 42nd Street, New York 18, N. Y.

An Investment!

Productive advertising is an INVESTMENT rather than an EXPENDITURE.

"Searchlight" advertisers almost invariably report prompt and satisfactory results.

BE CONVINCED—send us your advertisement TODAY.

Address
Classified Advertising Division
TEXTILE WORLD
330 W. 42nd St., N. Y. 18, N. Y.

TWO GREAT NAMES...DODGE-TIMKEN!

It was Dodge who took the famous Timken Bearing, mounted it, sealed it, housed it and delivered a pillow block of new high quality—fully assembled, ready to lock on the shaft and carry the power loads of industry with new efficiency.

Dodge develops *outstanding* power transmission products, as proved by the big success of Dodge-Timken Bearings on millions of industry's toughest jobs.

Dodge-Timken Bearings are supplied promptly from stock in four basic types and a wide range of sizes to meet an almost limitless variety of anti-friction problems.

Dodge also produces Ball Bearing Pillow Blocks which, with Dodge-Timken Bearings, comprise the famous "30,000 hour line." Write for complete bulletins.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana

DODGE

of Mishawaka, Ind.

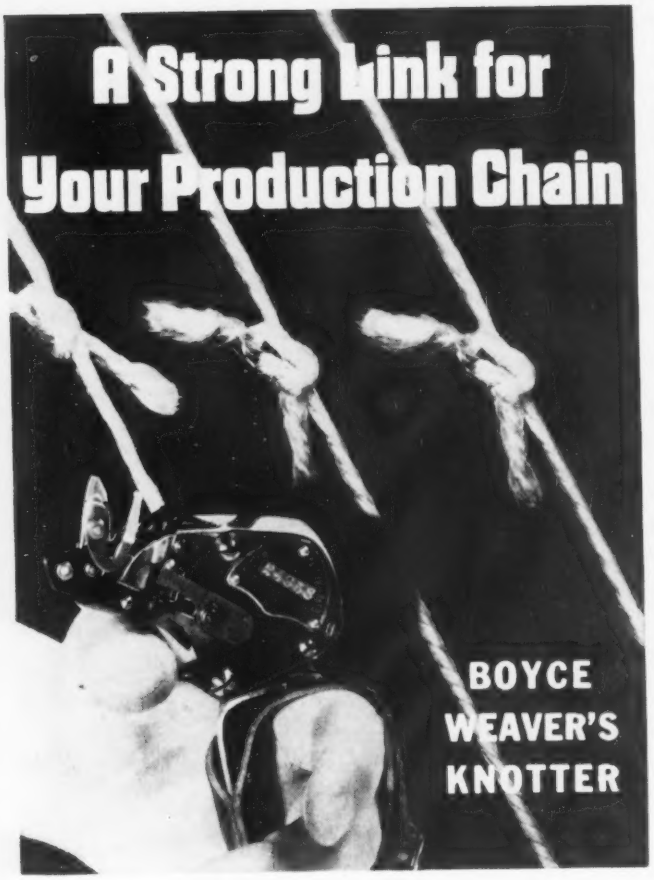
CALL THE TRANSMISSIONEER

He is your local Dodge Distributor—factory trained—qualified to suggest ways to improve your machine performance, increase production. Look for his name under "Power Transmission Equipment" in your classified phone book.

Copyright, 1948, Dodge Mfg. Corp.

NAME PLATES

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS



Fine, high quality yarn is no stronger than its weakest or poorest knot.

The Boyce Weaver's Knotter offers you a vital production safeguard that will pay for itself many times in terms of labor and time savings. Its fast, smooth action clips the ends of a strong, uniform knot clean and even. This means stronger, finer yarn . . . improved quality . . . less seconds in the processes that follow.

MILL DEVICES COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA N. C.

REPRESENTATIVES

C. E. HERRICK, 44 FRANKLIN STREET, PROVIDENCE, RHODE ISLAND
R. D. HUGHES SALES CO., 1812 SOUTH MAIN STREET, DALLAS, TEXAS
HUGH WILLIAMS & CO., 47 COLBORNE ST., TORONTO 1, CANADA

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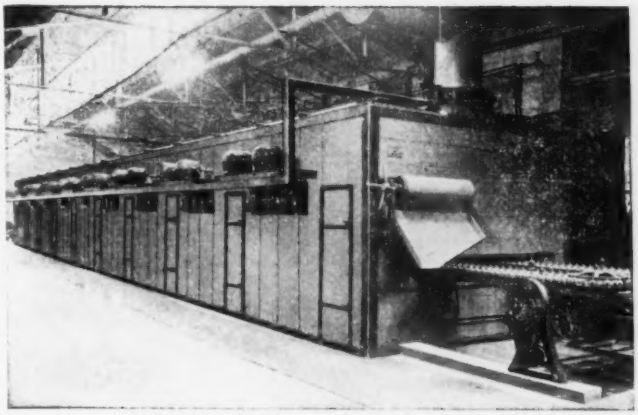

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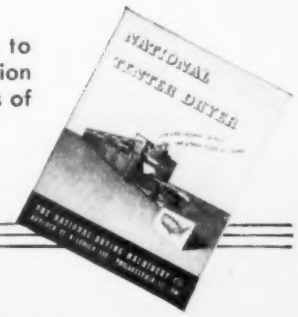

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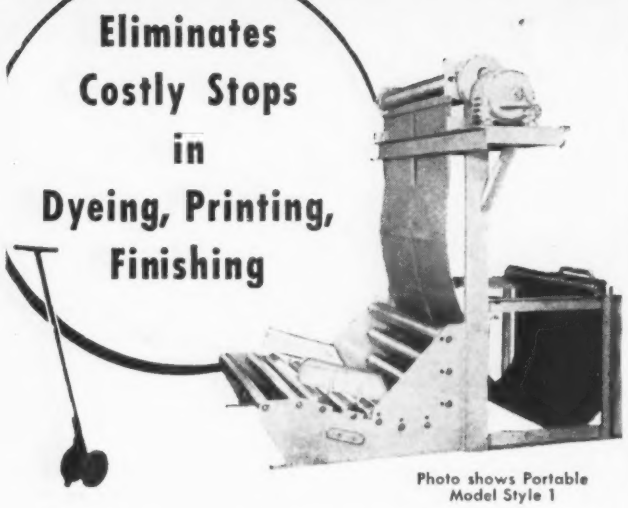


Photo shows Portable Model Style 1

SLACK in the scray box of the Mount Hope Continuous Roll Feed permits full speed operation of your dyeing, printing or finishing machines while supply rolls are being changed. And one person can quickly, easily sew on a new roll. Here is a valuable saving in time and labor, two precious commodities in any mill. A third saving effected is the virtual elimination of cloth damage due to machine stoppage when supply feed is interrupted.

The Mount Hope Continuous Roll Feed consists of a cradle, with ball bearing rolls, in which the new roll is held in place by adjustable selvage locators, motor driven ball bearing nip rolls and a scray. A center bar let-off with brake may be substituted for the cradle, if desired.

The use of the Roll Feed varies with the manner of using the scray as in the three styles listed below:

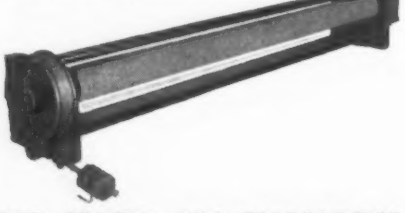
1. Scray normally empty (except when sewing on new roll) with cloth being pulled from roll over two ball bearing idler rolls. Just before new roll must be sewed on, operator starts simple constant speed motor putting nip rolls in contact thus filling scray.

2. Scray *automatically* maintains cloth level. Simple constant speed motor starts and stops automatically to maintain this level.

3. Scray normally full. Level maintained by synchronizing nip roll speed with speed of machine being fed, by variable speed drive from direct current motor, or from mechanical speed changer and constant speed motor.

The Open Width Tension Device, illustrated below, should be used with the Mount Hope Continuous Roll Feed when the cloth is guided to a succeeding machine.

Use the Mount Hope Continuous Roll Feed for continuous production. It can be used with all roll fed machines in the finishing plant. Send for our descriptive bulletin.



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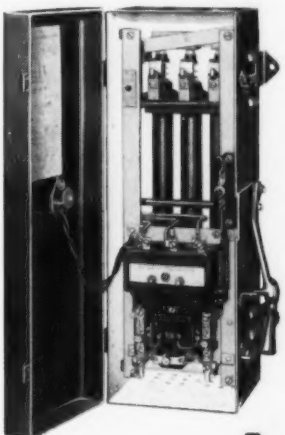

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